

JPRS 83085

17 March 1983

USSR Report

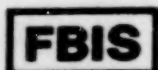
ECONOMIC AFFAIRS

No. 1046

EKO: ECONOMICS AND ORGANIZATION

OF INDUSTRIAL PRODUCTION

No. 11, November 1982



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

17 March 1983

USSR REPORT
ECONOMIC AFFAIRS

No. 1046

EKO: ECONOMICS AND ORGANIZATION OF INDUSTRIAL PRODUCTION

No. 11, November 1982

CONTENTS

Table of Contents of 'EKO' No. 11	1
Supplier Orientation, Labor Surpluses, Quotas, Taut Planning: All Play a Role in Creating, Perpetuating Shortages (P.G. Bunich)	4
Greater Variety, Maintenance of Agricultural Machinery Urged (S.V. Moskvina)	16
Role of Advertising at Lvov Engine Plant Explored (M. Ye. Leonov)	27
Commercial Advertising Viewed as an Independent Economic Sector (L. I. Grimberg)	35
Quality of Retail Advertising Needs Improvement (A. I. Sviridyuk)	40
West's Approach to Advertising Examined (D. V. Chernykh)	43
Product Lines, Capital Investment, Poor Management, Labor Shortages at Nizhny Tagil Metallurgical Complex (G.N. Vasilenko, V.N. Florov)	51
Value of Objective, Weighted Factors in Human Resource Management (V.V. Krasil'nikov)	62

Training Seen as Key To Solving 'Problem' of Line Supervisors (N.T. Bordyugov)	70
Continued Training, Expansion of Managerial Manpower Pool Needed (N. Ye. Leonov)	75
Production Standards Can Be Raised Without Sacrificing Wage Rates (A. D. Ayzenkremer)	79
Problems, Prospects for Direct Deposit of Paycheks Into Savings Accounts (A. N. Burov)	87
Misuse of Salary Bonuses at Several Plants in Alma-Ata Detailed (A.N. Lyubomirskiy, V. I. Yalunin)	90
New Rates Designed To Shift Short-Haul, Rush Order Freight From Railroads to Trucks (V.V. Rusakova, L. A. Borisova)	93
Advantages of Using Flextime Reviewed (G.S. Pin'kovskiy, et al.)	97
Flextime Aids in Strengthening Labor Discipline (I. V. Unzhakov)	100
Employment of Retirees in East Europe Helps Offset Declining Birth Rates, Labor Forces (T. V. Zhilkina)	101
Western Trade in Licenses, New Technology Discussed (V. Ye. Demidov)	110
Application of Work Time Budgets Analyzed (V. A. Artemov)	120
Book Evaluates Salary Determination in Labor Brigades (V.S. Petukhov)	123
Need To Focus More on Parts, Assemblies for Machines (R. L. Santanovskiy)	126
Prospects for, Limits to, Social Psychology Explored (N.M. Koryak)	128

TABLE OF CONTENTS OF 'EKO' No 11

Novosibirsk EKO: Ekonomika i organizatsiya promyshlennogo proizvodstva in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 191-192

/Items marked with an asterisk not translated/

/Text/

IMPROVEMENT OF ECONOMIC MECHANISM

P. G. Bunich, Only Efficiency Will Conquer Shortages 3

INDUSTRY AND THE FOOD PROGRAM

S. V. Moskvina, Agriculture Needs Systems of Machines and Machines
Need Systems of Service 21

INDUSTRY AND TRADE

Advertising--Production Assistant 37

M. Ye. Leonov, The Strategy and Tactics of Plant Advertising 38

L. I. Grimberg, Commercial Advertising--An Independent Branch 49

A. I. Sviridyuk, Advertising and Sales 57

D. V. Chernykh, Implements of Nonprice Competition 61

*Digest, Brief Magazine Information 71

THE ENTERPRISE: THE DAYS ARE FILLED WITH PROBLEMS

G. N. Vasilenko and V. N. Florov, Why is it Difficult for the Combine? 75

V. V. Krasil'nikov, Determination of the Results of Socialist
Competition 90

A WORD TO THE DIRECTOR

The Production Manager: How to Train Him?

N. T. Bordyugov, There Are Vacancies 100

N. E. Leonov, The Search for Managers--A Constant Task 107

SOCIO-ECONOMIC PROBLEMS OF LABOR

A. D. Ayzenkremer, "You Can Raise the Norm But There is No Need to Cut Rates" 114

A. N. Burov, Wages Through Savings Banks--Experience and Difficulties 125

A. N. Lyubomirskiy and V. I. Yalunin, How the Bonus is Transformed into Wages 128

RESPONSES

*The Selection of Materials "Forming and Utilizing the Cargo Automotive Fleet EKO, No 4, 1981

V. V. Rusakova and L. A. Borisova, Truck Cargo Shipments--What Rates Can Do 132

*Selection of Materials "Flexible Schedule in Scientific Institutes" EKO, No 12, 1981

G. S. Pin'kovskiy, Yu. T. Razumnyy and V. P. Sichkarchuk, We Assert: Flexible Conditions for Labor and Recreation are Convenient for All 137

I. V. Unzhakov, Flexible Schedule Strengthens Discipline 140

CONTROL OF THE ECONOMIES OF SOCIALIST COUNTRIES

T. V. Zhilkina, Enlisting Pensioners into Public Production 142

*Material Stimulation of the Labor of Pensioners 154

WORLD ECONOMICS

V. Ye. Demidov, What is the Sense in Selling Secrets? 159

CHECK YOURSELF

*On Brigade Organization. Questions. 173

SCIENTIFIC LIFE

V. A. Artemov, Time Budgets and Their Application 175

CHECK YOURSELF

*On Brigade Organization. Answers. 179

AMONG BOOKS

V. S. Petukhov, Payment for Labor in Brigade 180

N. M. Koryak, Behavior Patterns of People in Organizations 184

R. L. Satanovskiy, From Economic Cycles of Lives of Machines to
Cycles of Lives of Their Elements 188

IN PREPARATION FOR NEXT ISSUE 190

COPYRIGHT: Izdatel'skov "Nauka," Ekonomika i organizatsiya promyshlennogo
proizvodstva", 1982.

11772

CSO: 1820/38

SUPPLIER ORIENTATION, LABOR SURPLUSES, QUOTAS, TAUT PLANNING: ALL PLAY A ROLE IN CREATING, PERPETUATING SHORTAGES

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 3-20

[Article by P. G. Bunich, corresponding member of the USSR Academy of Sciences, Moscow Institute of Administration imeni S. Ordzhonikidze, Moscow: "Only Efficiency Will Conquer Shortages." Article published as a discussion. See also EKO, No 2, 1982--articles by V. D. Belkin and V. I. Sorkal'tsev on the interconnection between shortage and the economic mechanism.]

[Text] The main causes of shortage are increased expenditure of resources per commodity unit, slow construction, inadequate growth rates of the output of new items and an inclination to continue in the old way. Shortages arising because of imperfect management will be discussed below. The sources of this, of course, are in the sphere of production.

The Supplier's Mandate

The first feature of the shortage is the dominance of the supplier who can delay deliveries or deliver products ahead of schedule. He can change the deadline for fulfilling agreements. Supplies are sent first to consumers who cooperate and are also within the same ministry or rayon, are located relatively nearby and transfer money quickly. The supplier himself decides who shall receive the unfunded above-planned products.

The privileges of the producer explain why, when violating supply discipline, he feels himself privileged, why sanctions are imposed for only one violation out of ten, why compensation is made for only 0.15 percent of the cases in which harm is caused, and why in the remaining cases this is limited to trivial fines which do not repay the effort for exacting them. The demanding consumer risks being left without supplies, and complaints on his part are just a drop in the bucket compared to the possible retaliation from the supplier.

The shortage of goods orients them toward maximally increasing quantitative indicators. A shortage, when the goods are "grabbed from the hands" of the supplier, diminishes the concern of the producers for updating them and improving their quality and for advertising, which either does not exist or is curtailed. It creates a situation that is favorable for increasing wholesale

prices or reducing them slowly as compared to the necessary level. This is tantamount to reducing the stimuli for introducing economical technologies and the results of scientific and technical progress.

The owner of the products that are in short supply acquires greater influence since it is easier to sell than to purchase. The items are not bought and sold as much as they are "provided," "provided in adequate quantities," "discarded,"

The Response of the Consumer

A second feature of the shortage is the desire of the consumers to be released from their dependency on the producers. Commercial supplies of raw materials, processed materials, batching items, instruments and consumer goods are increasing. For one commodity group it has been calculated that a shortage of 1 percent of the effective demand leads to an increase in supplies of 10 percent. The reverse is also true: if the shortage decreases, the demand also decreases. I shall give an example. Mosgormetallosbyt introduced guaranteed supply for its consumers. And in 1980 it required more than 30,000 tons of rolled metal less than the volumes it ordered.*

We find a more widespread example in wholesale trade. The possibility of always acquiring goods at bases and warehouses of supply agencies has led to a significant reduction of supplies among the immediate consumers. For costly items the accumulation slows down as it does for especially fashionable items, which quickly become outdated. The supplies of basically necessary items increase more rapidly than do the supplies of relatively less important items.

Surpluses of labor force constitute a particular kind of supplies. When there are not enough available workers the mechanism of enticing them goes into effect. Certain managers try to raise rates and bonuses and close their eyes to absenteeism, tardiness and other violations of discipline. More highly paid positions are introduced: secretaries become seminar leaders, technicians become engineers . . . like mushrooms after a rain, new divisions, subdivisions, services, laboratories and centers appear, and ministries, administrations and committees are divided up and enlarged. The administrative staff of the Ministry of Finance checks on them, but the mountain of surplus personnel grows higher and higher. A shortage of personnel replaces material incentives with material indulgence, avoidance of responsibility and unjustified wage increases.

Surplus supplies are formed with higher planned norms for material expenditures and reduced amounts of production capacity and output norms. Increased norms for the expenditure of fuel and thermal energy were found in 10 of the 15 enterprises of the USSR Ministry of Ferrous Metallurgy that were inspected, 33 of the 73 enterprises of the USSR Ministry of Nonferrous Metallurgy, 56 of the 117 enterprises of the USSR Ministry of Light Industry, and so forth. The demands and supplies of equipment are also exaggerated. Sometimes they reach amounts in excess of the insurance supply, and subsequently the clients themselves reject them.

*PRAVDA 16 November 1981.

In order to counteract the power of the supplier, the consumers use replacements that are not equivalent, which are costly or of poorer quality. If there is no inexpensive equipment they take expensive equipment. They purchase, for example, AT-PR-100-2U looms, even though they are four times as expensive as AT-100-5M looms with only a 1.5-fold increase in productivity. The shortage of billets of the optimal size is made up for by using larger smelted pieces. Thus the Moscow pump plant imeni M. I. Kalinin uses 80-100-millimeter billets from the Serp i Molot plant to produce flanges with a diameter of 40-50 millimeters. Almost half of the steel goes to shavings. The amount of time it takes to produce a part that could ordinarily be produced during a shift increases 1.5-2-fold. The expenditure of electric energy increases just as much. There is an overexpenditure of wages.

There are also costly replacements when the raw material does not come on time, for example, at the end of the month. It is necessary to pay overtime and over-expend the wage fund in order to produce a sufficient volume of products.

When there are shortages substandard raw material is used, and items are produced from the materials that are available and not those which are needed by the economy and the population. There are not enough skilled workers and the number of less skilled ones increases. This artificially increases the strain on the balance of labor, worsens the condition of the equipment, lowers the level of quality of the items that are produced, and frustrates people because they are unable to cope with their work.

The desire of consumers to provide their own supplies and make their business self-sufficient can be regarded as a particular case of unequivalent replacement. Many enterprises maintain their own smelting, forging, repair and instrument shops, prepare their own timber, produce packaging, do construction and have departmental transportation. Self-sufficiency is also reflected in the resistance on the part of subdivisions that are to be reduced or eliminated, for example, separate bookkeeping offices.

The tendency toward self-support means not only duplication of production, increased amounts of idle time on equipment, and reduced standardization in production and subsequent repair work, but also the application of technical equipment that is suitable for all occasions and, consequently, is costly. The demand for universal machine tools increases and their capabilities are not utilized. Sometimes self-sufficient business is less expensive than specialized business. The rates for general purpose automotive transportation exceed departmental expenditures; centralized repair work is also too expensive. Not least important in such contortions of price setting and payment for services is the monopolistic position of those who have the items in short supply, which makes it possible for them to inflate prices and impose far-fetched expenditures on the consumer. The process whereby the consumers of the equipment have begun to distribute among themselves the responsibilities for producing and delivering to one another the machine tools and instruments in which they "specialize" has become stronger. It is thought that this is less expensive and, the main thing, more efficient. It is less expensive only in comparison to completely self-sufficient business and more rapid as compared to the inflexibility of the suppliers which is brought about by their inadequate motivation to serve the consumers efficiently.

Among the unequivocal replacements one can also include the expenditure by the consumers of extra efforts for acquiring items that are in short supply. Managers and specialists spend one-third of the working day on this kind of activity. "A large part of the time of the supervisor, section chief and brigade leader goes for making telephone calls about deliveries," says N. A. Zlobin.*

The consumers have developed many devices in order to reduce the effects of the supply difficulties; protection of planned assignments which can be fulfilled with interruptions and deliveries, and the desire to adjust the plans. The struggle of central agencies against such adjustments has caused some managers to try to reduce the plans which ensures them against adjustments. In connection with the allotment of investments for increasing production there is a new phenomenon: the managers increase the drafts of the plans for production and obtain more capital investments, funds for raw material and the right to enlist labor force. Then they begin the struggle to adjust the production assignments while retaining the additional resources. When it ends with a reduction in the plans, the latter, taking into account the overexpenditure of funds, ends up to be even less strained.

Limits

A third peculiarity of shortages is the inevitable development of limits on material and labor expenditures, assignments for economizing on them, and assignments for secondary utilization of fuel and energy resources and wastes. Special incentives are introduced for economizing on material expenditures. Bonus systems are created for workers, managers and engineering and technical personnel which give them incentives to save on the bonus fund. Additionally, special-purpose sanctions appear for exceeding the limit on material expenditures a policy is established whereby they pay at higher prices. Incentive funds are being especially reduced beginning in 1983 (to 25 percent). The producers and consumers of metal are forbidden to replace economical kinds of rolled metal and pipes with less effective ones without the permission of the sales organization of the USSR Gosnab.

Completing the products list is raised to the rank of an autonomous criterion for evaluation which does not depend on expenditures, and this gives new meaning to the formula "the contract is more costly than money." The concept of the priority consumer is being introduced: startup projects, northern regions, agriculture and so forth. Something similar is taking place in the sphere of circulation of consumer goods that are in short supply. Maximum norms are being established for their sale to one individual, and it is necessary to sign up beforehand.

The greater the limitations the less the independence. And the greater the rights, the less the responsibility. The person who receives less is responsible for less. Reduced responsibility is spread by a chain reaction beyond the formal boundaries. There arises the opinion that nothing is

*Serikov, V. P., Mironov, Yu. N. "Krutyye vysoty" [Steep Heights], Moscow, Stroyizdat, 1980, p 116.

supposed to depend upon the enterprises, that they are guilty of nothing. Therefore it is necessary to forgive failures and overexpenditure of funds. The planned number of personnel and the planned wage funds are being increased absolutely. But the responsibility for overexpenditure of the wage fund is something to be pitied and embarrassed about, as if understanding its inevitability and that it is brought about because of ensuring against a possible shortage. Gosbank agencies, for example, reproach the enterprises for such overexpenditure, but they give them the money. It is convenient to conceal internal shortcomings under the magical force of interruptions in supply, and two-thirds of the losses result from the latter.*

In consolidated form the economic consequences of shortages can be reduced to overexpenditure of funds--direct (surplus supplies, self-sufficiency of production, unequivalent replacements) and indirect (through decreased supply discipline, limitation of independence, stimuli and autonomous financing, and inflation of the sphere of control). "The disproportions and shortages that arise in various sections of the national economy," it was noted at the 26th Party Congress, "cause no small amount of economic damage and complicate the struggle for efficiency and quality." As soon as a shortage gives rise to another shortage, it propagates itself on an expanded scale. It is necessary to eliminate the roots of the initial shortage of goods. When they disappear, the consequences will also die out.

On the Roots of the Shortage

How do specific cracks form through which public funds leak, and which element of the economic mechanism requires repair? This is the policy for evaluating the activity of the collective, which mainly takes into account the degree of fulfillment of the plans but does not properly draw attention to the degree of their difficulty, how economical they are or the difficulties in updating the plans and conducting creative research about them. Incentives for fulfillment of the plan as such, regardless of the level of effectiveness it envisions, places in a privileged position those enterprises which have envisioned increased norms for the expenditure of raw and processed materials and low indicators for labor productivity. Other kinds of overexpenditure also lead to a shortage, for example, inadequate utilization of equipment. Instead of eliminating the overexpenditure of raw material and idle time on technical equipment, they try to make up for the inadequate productivity of certain sets of equipment by acquiring new ones.

Because of investments these enterprises grow both quantitatively and in prestige. They mitigate the surplus labor resources by fulfilling public duties and releasing workers for agricultural work. Those managers who have turned out to be thrifty feel good.

Collectives which receive an abundance of production capital fulfill the assignments easily. They find "windows" in their working time and do not hasten to cover them. It is better to let certain workers be idle for hours than to change the plan. Overfulfillment is allowed in a strictly controlled amount.

*"Economic Sanctions and Delivery Discipline," Kiev, "Naukova dumka", 1976, p 190.

The evaluation for the "plan" has historically had various modifications: only for overfulfillment of the plan (up to 1936); for fulfillment according to ordinary normatives and for overfulfillment according to increased normatives (up to 1965); for fulfillment according to ordinary normatives and overfulfillment according to reduced normatives, including according to the counterplan--less reduced (up to 1980); for fulfillment according to ordinary normatives, for increased five-year plans--with increased normatives, for annual counterplans--with increased normatives, and for overfulfillment with reduced normatives (from 1981 until the present).

Collectives that are working efficiently are forced to spread out so as only to fulfill the plan, but they do not have to think about overfulfilling it. The system of incentives does not involve the results of labor or distribution according to production achievements. It is not impossible for the person who works poorly to earn more and the one who is really an advanced worker to earn less. It can turn out, for example, that when the quality of products is not very good this is not a defect, but a factor which facilitates work when it is legitimized by the plan.

Enterprises put extremely costly fixed capital on their books, write off various kinds of structures ahead of schedule, and divert funds from purposes envisioned by the plan to others which are far from primary needs--constructing costly administrative buildings, providing them with rich furniture, or constructing a fence of sheet steel if all this is administered by the plan. The task of labor collectives under these conditions becomes a struggle to prove the impossibility of preventing losses, their inevitability, and not to take direct and unconditional responsibility for them.

The existing system of autonomous financing, which relies on providing investments not according to the incomes that are earned, but according to the plan, regardless of the ability of the enterprises to pay, increases the shortage in comparison to increased orders from certain collectives for the acquisition of equipment, new construction and supplies of material values. Only self-financing would make it possible for the collectives themselves to decide where to invest resources and who should be given additional credit. Of course, some of the expenditures in principle must have budget financing and not self-financing (new enterprises, major projects of the infrastructure, fundamental scientific research, primary geological prospecting).

The policy of financing according to the "base" also contributes to increased production accumulation. According to this policy those who have saved more money in the past are given less in the future. Initially the effectiveness of capital investments is enhanced. The developers increase the effect by an average of 30-50 percent, and for individual kinds of products--two-fold. For 15 of the 21 kinds of land-moving machines created by the VNIIZemmach, the actual return was more than 15 percent less than the amount earmarked.* Awarding bonuses for the actual efficiency of new technical equipment does not change this outcome, for the consumers of the technical equipment easily confirm its high level as soon as they are responsible not for it but for the plan. There can be certain achievements as a result of excessively reducing the planned return from the rest of the capital. The allies of the enterprises in increasing

*PRAVDA, 29 July 1981.

the effect from investments are the planning organizations which are paid depending on the effectiveness of their developments for new technical equipment. When speaking about new fixed capital, payment for what is actually accomplished is not envisioned. One pays for the calculated effect since the consumer is responsible not for the actual effect, but for the "plan," which, as a rule, is much less. Thus there is a super liberal arrangement between the client and the plan and the builders, which is based on the famous saying "Don't look a gift horse in the mouth."

Taut Plans

They say that the plan should not be reduced. It is called upon to serve with the greatest precision and fairness as a mirror of the forces of each collective and, consequently, a measure of their results. This is true when there are strong local stimuli for developing taut assignments.

At the November (1981) Plenum of the CPSU Central Committee it was pointed out that it is economically disadvantageous for enterprises and associations to adopt taut plans. The tendency to reveal reserves is counteracted by tendencies to conceal them. There are managers who are able to obtain easy plans, to "scare up" funds, to place the blame for failure to fulfill assignments on related enterprises, to adjust planning indicators, to talk themselves out of additional assignments, and to write good reports.

Direct incentives for fulfillment of the plan without taking into account its difficulty undermines its initial prerequisite--an ideally correct, accurate plan. As was noted at one of the meetings of the USSR Council of Ministers, many ministries and departments have reduced the indicators of the plan for the first half of 1981.* Analysis of the work of industrial enterprises in Lithuania showed that many of them have loaded their equipment by an average of only 11 hours per 24-hour period. But the plans are being fulfilled, which shows that they are not difficult enough. Sometimes plans for the startup of construction projects are not fulfilled. The plans for the introduction of new technical equipment are fulfilled by 60-80 percent. Yet the production plans are still being fulfilled.

In order to make the plans more difficult, a number of branches have calculated branch normatives of permissible expenditures of raw material, labor productivity and utilization of capacities which are compared with planned assignments. If the normatives and the plan correspond to one another it is thought that the plans are sufficiently difficult. If the plans are less than the normatives they are too low, and the incentives for fulfilling them are moderate. But certain managers stubbornly oppose branch normatives, successfully showing their incommensurability with others. For example, a high normative for the utilization of capacities is rejected on the basis that it is appropriate only for old enterprises which have assimilated fixed capital long ago.

The best plan requires foregoing some parameter of growth and allowing the reduction of one indicator in order for this factor to be covered by a number of others. Improved quality can lead to large outlays; the lower the production

*PRAVDA, 23 July 1981.

cost, the higher the capital investments. We need not so much standardized branch normatives established from above as the creation in the collectives of an economical microclimate which motivates them to optimize their behavior and to plan and make efficient expenditures. In recent years another variant of the solution to this problem has been noted. In most general form it consists in evaluating the work of the collectives for the level of effectiveness as distinct from evaluation for the fulfillment of the plan.

For the Level and the Plan

In order for the unity of the "leveled" evaluation and the planned basis to be more concrete, let us consider which indicator reflects effectiveness. Certain economists consider the value of output, under the condition that it corresponds to the contracted products list, to be the indicator of the level of effectiveness. But when the production volume is reached at the price of excessive expenditures, one can hardly speak of good results.

The level of effectiveness, under the condition of the payment of the normative wage fund, is registered in the profits. Its overall amount, if necessary, can be broken down into individual factors. And this is done when the indicators used for evaluation are those of labor productivity, proportion of products of the highest quality category, production costs and savings on material expenditures which correspondingly "take their responsibility" for their contribution to the effectiveness and ascribe to other factors the remainder of the profit.

If one understands the level of effectiveness and the criterion for incentives to mean the aforementioned indicator in its effective significance, the more goods the enterprise produces, the better they are and the justifiably more expensive (although relatively, calculated per unit of effect, less expensive), and the less resources expended on them, the greater the profit and the greater the amount of it remaining at the disposal of the enterprise.

Retaining a shortage in this schema gives the collectives an advantage per unit of output, but leads to a disadvantage in the mass of overall income because of the small volume of sales and the lack of an effect from reducing the cost of products as a result of mass production. In order not to allow losses of potential advantage, the collectives do everything possible to eliminate or overcome the shortage.

When evaluations are made in terms of the "level" the collectives begin to strive for high achievements. But they can be achieved only with prompt supply of raw material for the enterprises, increased capacities, more personnel and greater sales markets. And there is one reliable means of providing these --the plan. Thus evaluation in terms of the "level" leads to taut plans. Moreover, one should not forget that underfulfillment of the assignments, as usual, will entail sanctions--additional means of fighting for the unwavering effect of the planned assignments. Moreover, the "level" instills real life into this system, for underfulfillment of the plan cannot be covered by sanctions. In other words, for a mechanism based on a level evaluation, sanctions are vitally more important than when incentives are given for the "plan." The overall conclusion is that evaluation in terms of the "level" is an evaluation of the level of the plan, which simultaneously envisions incentives for its fulfillment.

The application of the level criterion for evaluating the activity of collectives also requires the exclusion of external factors which influence the final result, that is, it raises the question of increasing the scientific substantiation of interest on credit and rent and fixed payments. It also presupposes that the plans are drawn up by the collectives themselves when they have complete autonomous financing: they earn resources and they expend them. Therefore they are also responsible for the "level." When the plans are given from above, evaluation in terms of the "plan" is inevitable. Additionally, the central agencies should adjust the plans of the local areas, relying on economic regulators: some should be given subsidies and part of the profit should be taken from others when it is produced by central adjustment, the interests of the collectives should be directed toward national economic interests with the help of prices, privileged interest rates, and so forth.

Not a Dream, But a Reality

Evaluation in terms of the level of effectiveness exists in practice, but so far it is in addition to the evaluation for the "plan." For example, the collectives of the electrical equipment industry, when they have fulfilled the plan, receive incentive funds according to planned normatives. This is their evaluation for the "plan." But if they produce products with a higher quality than that envisioned by the plan, some of the effect from this improvement assumes the form of increments to the price and goes for additional incentives. This is an element of evaluation for the level of effectiveness which provides incentives not for all who have fulfilled the plan and not in equal amounts per worker, but only for those who have produced a new effect and it is differentiated in terms of the amount of this effect. The decisions of the party and government concerning the economic mechanism envision the extension of this system of increments to all industry which manufactures means of production.

Autonomously financed brigades are paid for the "level" (for the number of units, buildings constructed and economizing on expenditures). But the development of this is impeded by the fact that the administration is paid for the "plan." Under these conditions the additional efforts on the part of the managers in order for the brigades to have better supply of parts, spare parts, lubricants, instruments and preventive repair do not lead to increased payments for the managers and mean only "extra" concerns. The development of the contract thus requires a change of its principle in the direction of the enterprise and elimination of the dual criteria for incentives for new and old enterprises as well as a changeover of branch systems as a whole to evaluation in terms of the "level."

In trade more than 40 enterprises of the RSFSR, Belorussia and Lithuania have been conducting an experiment since 1980 involving evaluating the activity of collectives of stores and sections on the basis of satisfaction of consumer demand and the quality of service for the population. Refraining from worshipping the percentage of fulfillment of the plan has led to a situation where the salesmen have begun to be motivated to work more and better; they have stopped "putting on the brakes" at the end of the month if the plan has already been fulfilled or "throwing away" the shortages in order, conversely, to reach its fulfillment. At the trade bases they take both the most advantageous goods and the less advantageous ones. Both of them make it possible to satisfy the demand more fully.

The sooner the criteria of the "level" cease to be an exception to the rule, the shorter will be the distance to the most economical and shortage-free production.

The Role of Prices

Incentives for the level of effectiveness are a necessary, but not adequate condition for economizing. Another condition is improvement of price setting. Today's wholesale prices are mainly based on expenditures of products by the producers. When evaluating in terms of the "plan" the indicators of the effect and profitability are not the main ones for incentives. They are the ones that determine the resource part of self-financing. Nor is the differentiation of prices based on the ratios between supply and demand adequate, since soon the goods are distributed according to supply plans and not according to effect and price.

The role of prices is reduced to a passive accounting function--to a unified monetary form of all expenditures and "results" and a fairly formal procedure for comparing them. All these conditions are met by "expenditure" prices, which are simple and convenient, the more so since the price of the "effect" requires difficult searching in a number of spheres of application of commodity masses and their return in each of them. Up to this point there exists an extreme expression of "expenditure" prices--the so-called calculated prices which are differentiated for the salesmen. "Expenditure" prices take the quality of goods into account, but reflect expenditures and not the effect.

The collectives receive an indulgence for excessive expenditures. This is perhaps why expenditures per ruble of commodity output in industry during the period of 1975-1980 (in prices of the corresponding years) increased in four years and decreased a little bit in only two years (1978 and 1980). The production cost of construction and installation work was considerably less during 1975-1979 than in 1970, and in 1980 it increased.

The existing methods for setting prices also lead to the calculation of unjustifiably high profit on the basis of excessive expenditures, and this is not related to the effect of the application or the usefulness of the commodity. Despite the fairly high production cost, profit in the national economy in 1980 exceeded the 1975 level by 24 percent. Many plans for capital construction appear effective for they "meet" the normative coefficient for economic effectiveness. One forgets that this coefficient was initially added to expenditures and included in the price and that it is not derived from results.

One might think that high prices reduce the demand and eliminate the shortage from industrial consumption. This does not happen. High prices are automatically included in the plan for financing consumer enterprises and therefore do not hold back the demand. In this situation high prices and shortages are mutually conditioned and do not mutually exclude one another.

Prices that are too low are no better. They reduce the actual effectiveness of the production of items that are sold at unjustifiably low prices and thus do not attract the attention of the society to the advantageous spheres for the

application of efforts. Moreover, they contribute to wasting the products. Until recently low prices "provoked" excesses in the consumption of petroleum, coal, thermal energy and timber. But extremely low prices exist even now. Because of the orientation toward zonal-individual expenditures, the coal of Ekibastuz and KATEK, which has the greatest effectiveness is sold for one-fifth-one-sixth as much as coal from other basins. Wholesale prices for natural and casinghead gas differ from one another 7-fold.

Both high and low prices are based on average branch expenditures. Prices deviate from individual expenditures of particular enterprises because of many reasons. Deviations do not especially bother the enterprises. Some of them are given planned subsidies, their payments into the budget are reduced or they are released from payments for capital. Others, conversely, are given more difficult assignments for deducting from profit into the budget. Incentive funds are especially carefully equalized. In the stage of planned calculation unified percentages of the wage fund are applied for workers and engineering and technical personnel individually. Equality is introduced in the payment of bonuses (ceilings are established for them) and into the amounts of wages. Whatever has not been completed at the level of the enterprise is completed from within--through the equalizing approach to the evaluation of production units, shops and brigades. At the November (1981) Plenum of the CPSU Central Committee, L. I. Brezhnev emphasized that in practice enterprises that are operating well and poorly are sometimes given identical conditions.

Prices that are unilaterally oriented toward expenditures increase shortages in another way as well. Using these prices all enterprises guarantee themselves financial sources for purchasing materials and equipment and paying wages and bonuses. But it turns out that the money that is allotted is not issued in the proper amount, that there is not enough of the one and the other is not arranged.

When establishing prices for new goods price setting agencies look at the prices of old goods and try not to allow an increase per unit of useful effect and even to make this unit less expensive. But for a number of goods there have been no analogues in the past. But the main thing is to keep expenditures down, which breaks through the wall of resistance of price setting agencies when the opponent-consumer is silent. It is necessary to form a negative attitude toward unjustified price increases. The producer should be motivated to economize on expenditures with the same incentive for "level."

The system of "expenditure" prices does not exist in pure form. Prices for certain progressive kinds of products are established with increased profitability. The prices for obsolete and less effective items include profitability that is less than the normative. Beginning with 1 January 1982, for example, for metal cutting tools that are to be removed from production or modernized the prices envision profitability in an amount of 0.5-0.8 of the normative. The profitability has also been reduced for 23 kinds of outdated equipment for producing paper and cardboard.

The matter is gradually moving from individual corrections to a change in the rule itself. Recently price setting has begun to account more actively for the consumer's parameters of the items that are produced, their effect on reducing

expenditures in the subsequent link of the technological chain and the effectiveness of the use of the goods by the consumer. Such adjustments pertain to the maximum permissible level for prices of the producers which are called the lower level of prices. Thus the interests of the producer are not diminished and there is no objection to the prices they announce. But control of the producer by the consumer is being introduced and two kinds of prices are juxtaposed--the upper and lower limits.

The problem of overcoming shortages and achieving balance has a number of aspects. To accomplish this it is necessary, in particular, to provide for unity of physical-substantial and financial planning, to arrange all plans on scientific normatives, to include in these plans reserves for unforeseen maneuvers, and to grant the collectives the right to operational regulation of production according to new requirements, which, in combination with the reserves, will increase the homeostatic capability of the economic organism.

All this taken together forms a system of positive means which the healthy organism uses to attack the disease of shortages and deal a blow at its core. One cannot do without a system like this for shortages are also an entity which embraces the subsequent group of relations and tries to take up all-around defense and not allow break-throughs or cracks. It cannot be defeated by local operations and local courses of treatment, even if they are repeated. Here one needs a system that is stronger than the sum of the aforementioned disproportions which lead to shortages.

Such are some of the measures which, in our opinion, could possibly activate economic stimuli, with the help of which, in the spirit of the decisions of the 26th CPSU Congress, it is possible to overcome shortages and ensure a gradual changeover to a maximally effective structure of production.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

GREATER VARIETY, MAINTENANCE OF AGRICULTURAL MACHINERY URGED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 21-36

[Article by S. V. Moskvina, candidate of economic sciences, sector chief of TsNIITEI traktorsel'khoz mashin: "Agriculture Needs Systems of Machines and Machines Need Systems of Service"]

[Text] The May (1982) Plenum of the CPSU Central Committee approved the USSR Food Program for the period up to 1990, which was developed in keeping with the decisions of the 26th Party Congress. The systematic nature, the comprehensiveness, the coordination and the combination of efforts both of agriculture itself and the branches of industry that serve it, transportation and trade, devote all of their activity to a common final goal--producing high-quality food products and delivering them to the consumer, a most important feature of the Food Program.

The program emphasizes that the primary task of machine building ministries and all other ministries and departments of the agro-industrial complex is the completion, mainly in the period up to 1990, of comprehensive mechanization of farming and animal husbandry and re-equipment of food branches of industry on a new technical basis. A task has been set of steadily raising the technical level and improving the quality and especially improving the durability of tractors, combines, machines and equipment for crop growing, animal husbandry and feed production, and also for the food branches of industry.

The Food Program directs specialists toward revealing and bringing into circulation all reserves in the branches of industry, primarily those which produce machines and equipment. These reserves will be more fully revealed by conducting a comprehensive analysis that embraces all stages of the unified reproduction cycle: scientific research--the creation of new machines--their production--utilization--technical servicing--output of final product--final consumption of product. A most important means for effective coordination of the three first stages of this process is the development and realization of a system of machines for comprehensive mechanization of the branches of the agro-industrial complex.

Our country has already prepared several systems of machines and they are in operation. They combine a scientific approach to systematization of the created machines and long-range planning of further development of their designs. The

systems of machines, on the one hand, reflect the requirements of the consumers for technical equipment and serve as a basis for determining the real demand and, on the other, take into account the production capabilities for producing machines in all of their diversity in keeping with the products list, complexness and quality. They thus determine the volumes and basic parameters for the fulfillment of various technological processes and envision the realization of the main directions of scientific and technical progress in the area of mechanization, electrification and automation of production.

Throughout an extended period experience have been accumulated in the development and introduction of systems of machines in the area of agricultural production. As a result of the realization of four systems of machines for this branch of the national economy, the basic field work (plowing, planting of grain, cotton and sugar beet crops, harvesting grain crops) has been fully mechanized and mechanization is being completed for the planting of potatoes, interrow cultivation of areas planted in sugar beets, corn and cotton, cleaning of grain, combine harvesting of corn for grain, loading grain and fertilizers, and so forth.

Thus previously existing systems of machines adequately provided agriculture production with means of mechanization. For example, the system of machines in effect under the 10th Five-Year Plan for comprehensive mechanization of just the main branch of agricultural production--crop growing--envision more than 1,500 technical means, including for the main crops--more than 1,000. Moreover, the system of machines was based on a considerable degree of standardization. Thus 435 of the technical means can be used in several production processes or for various crops and at various times, and 230 machines can perform several operations simultaneously (including combines, combined seeders, and cultivator-plant feeders). Moreover, the system envisions the utilization in agriculture of more than 300 machines for mechanization of work that was previously done by hand and 69 machines for performing new technological processes in the main branches of crop growing. The use of 51 new machines should contribute to increasing productivity and the use of 31 technical means should lead to reducing losses or improving product quality.

The newly developed system of machines for the comprehensiveness of the mechanization of agriculture during 1981-1985 and up to 1990 envisions further improvement in the products list of agricultural technical equipment. It includes 1,300 kinds of machines, including about 1,060 for crop growing. When the system was formed it was based on the principle of comprehensive utilization of the entire set of machines for mechanization of the production of a particular agricultural crop, the minimum necessary with a maximum economic effect. The system earmarks developing and assimilating approximately 700 kinds before 1985 and more than 300 additional kinds of machines before 1990.

The main shortcoming in the previous systems of machines was their low level of assimilation. The main reason for this was that they were separated from the scientific and production base of the branch of tractor and agricultural machine building, since the system of machines included all possible means of mechanization without accounting for the scientific and technical reserve or production capacities that were existing or under construction. Therefore the new system

did not include those machines whose technical realization was objectively impossible during the period of its effect. Moreover, according to the new selection of advanced tractors, more than 50 types and sizes of agricultural tractors will be produced (and in 1979 only 30 types and sizes of them were produced). There will be a considerable increase in the range of proposed models of tractors. While the previously existing list envisions the output of tractors with capacities of from 25 to 300 horsepower, within the next 5-10 years it is planned to create and produce tractors with capacities of from 5 to 500 horsepower. The new system of machines has included means of minor mechanization: small tractors, motorized blocks with sets of the necessary implements, mechanized instruments, and so forth.

All this shows that our country is constantly improving and expanding the list of machines that are produced for agriculture. But at the same time the range of this expansion is far from exhausted since it is obvious that not all kinds of agricultural work has been "embraced" by mechanisms. There are essential differences in the levels of mechanization of the cultivation of individual crops. Thus the level of mechanization of planting and interrow cultivation of potatoes and vegetables is 85-100 percent, and for harvesting cotton--about 50 percent.

Another important shortcoming in the previously existing systems of machines for agriculture is the lack of adequate comprehensiveness of mechanization of the cultivation within a single crop. Thus while mechanization of planting and cultivating potatoes is on a fairly high level, the loading of them is poorly mechanized, machines have not been created for removing stones and clumps of earth from the potatoes, and existing means for storing and presale processing of potatoes do not meet modern requirements. There are serious complaints about the quality of agriculture equipment: special attention should be devoted to the reliability and durability of the items that are produced, the precision of planting the seeds, the preservation of the crop that has been harvested, reducing damage to grain, ears and tubers, and other losses. All this is an important reserve for increasing the effectiveness of agricultural production.

The system of machines for 1981-1990 is a system of machines of future agro-industrial complexes and associations of agriculture that is developed on an industrial basis. An essential role in its formation is played by organizations of the Ministry of Agriculture. But the level of agriculture requirements they have developed leaves something to be desired: it is not oriented toward a unified complex of machines and does not provide for high quality of all technical means that are included in it, nor does it take into account the scientific and technical reserves of the institutes which frequently duplicate one another. As a result it is more difficult for developers to take them into account. Sometimes they are not submitted promptly, which disrupts the time periods for the development of machines and reduces the level of implementation of the system of machines. The matter therefore consists in promptly and in the necessary proportions, through the efforts of producers and consumers, assimilating the models of machines envisioned by the system and covering "loopholes" in the mechanization of agriculture. The system of machines should become a most important means of implementing the comprehensive approach to the planning of the development of agricultural equipment, its production and consumption, and the search for and mobilization of existing reserves.

The production volumes of agricultural equipment have been extremely significant in past decades as well. The Soviet Union produces more than twice as many tractors and four times as many combines as the United States. But, in spite of the rate increase in the output and the level of satisfaction of the demand for individual kinds of agricultural equipment, particularly that intended for cultivating and harvesting industrial crops, it still does not exceed 50 percent (machines for harvesting tobacco--50 percent, tea--40 percent, and melon crops--35 percent). Special concern is aroused by the production of those agricultural machines for which the demand is satisfied by no more than 30 percent (machines for caring for plants in orchards, berry fields and vineyards, machines for applying mineral fertilizers, means of minor mechanization, and so forth).

The level of provision of the main branches of agriculture--grain farming, potato raising, cotton growing and several kinds of vegetable growing--is considerably higher--70-90 percent. This is explained by the existence of long experience and traditions of cultivating and mechanizing the cultivation of these crops and by a number of other factors. There are also individual kinds of machines for which the demand has been fully satisfied (general purpose plows, certain kinds of combines, potato diggers and so forth), but nonetheless they continue to be produced.

It is obviously too early to speak about overproduction of agricultural equipment as a whole: there is still not enough of it. But with an overall shortage of agricultural technical equipment, this same technical equipment is standing idle, is not used within its given parameters, is broken down into spare parts and, finally, is simply left for junk out in the open. This shows the shortcomings both in the production of agricultural equipment itself and in the utilization and servicing of it. Because of the fairly low level of reliability, the poor technical servicing and the level of utilization of tractors, about 45 percent of their annual output is used to replace tractors that have been written off. Therefore the technical and energy availability for agricultural production continues to be fairly low. Thus in agriculture for every 1,000 hectares of planted area in 1979 there were 11.7 tractors, or the average proportional energy availability amounted to 0.86 horsepower per hectare. Still there is a need and a real possibility of approximately doubling these indicators. In the future the availability of technical equipment for agriculture in our country will reach 14.6 tractors per 1,000 hectares, and the energy availability will be more than 2 horsepower per hectare.

It is quite understandable that the level of technical equipment and energy availability for agricultural production, abstracted from natural and climatic conditions, to a significant degree predetermines the productivity of the main crops, labor productivity, the employment of agricultural workers and expenditures on the production of agricultural products, that is, the final results. But analysis of the level of this indicator for various regions of our country leads to the conclusion that the distribution of agricultural equipment among various republics and rayons and the complete supply of it for individual farms are not being carried out on a strictly scientific basis and do not contribute to increasing production efficiency.

Thus, while the average union level of availability of grain harvesting combines is 5.36 per 1,000 hectares, this indicator for the following areas is: the Georgian SSR--4, the Volga region--4.7, the Northwestern region--9.7 and the Belorussian SSR--10.7. These differences certainly do not characterize the economic significance of each region or republic and are not identical to the change in the level of productivity of the crops, the production cost of a ton of grain, labor expenditures and so forth. A similar situation can be found with respect to the availability of equipment on individual farms within the region. For example, an investigation of the farms of Novosibirsk Oblast also showed a lack of uniformity in the distribution of various kinds of technical equipment: for each 1,000 hectares of arable land the availability of caterpillar tractors on the farms ranged from 1 to 3.6, wheeled tractors--from 2 to 4.5, plows--from 2.1 to 5, seeders--2.6 to 6.4, and grain combines--from 2 to 4.5 units. All this makes it impossible to utilize technical equipment and labor resources efficiently and constitute one of the reasons for the continued low productivity and high employment of population in agriculture. Other reasons for the relatively low productivity are the fairly poor quality of the seeds, the level of their germination, the precision of the planting, the insignificant amount of elite strains, the volume and quality of application of fertilizers, and so forth.

The task of further improving the structure of consumption and increasing the efficiency of the utilization of agricultural equipment is becoming increasingly urgent. It is even more crucial since, according to the prediction of specialists, the fleet of agricultural equipment should be stabilized by the beginning of the 1990's, and by the year 2000 it should even decrease. For example, the fleet of tractors will reach the level of saturation in 1990--about 3.1-3.2 million. We shall rely mainly on increasing the total power of the fleet. The main factor in increasing this will be to increase the average power of tractors that are produced. Thus in 1980 in our country it amounted to about 81.1 horsepower. According to the estimates of specialists, in 1990 it will have increased approximately 1.5-fold as compared to 1980 and in the subsequent decade--another 1.3-fold.

It is typical that the increase in the average power of tractors is greater than the increase in their output, and the total power of the fleet of tractors increases more rapidly than their average power. For example, while the total output of tractors during the 10th Five-Year Plan in quantitative terms increased by approximately 14.7 percent, the average power increased by 20 percent and the total power increased by 33.7 percent. This tendency was to continue under the 11th Five-Year Plan. On the other hand an analysis of the dynamics of production and the fleet of tractors in agriculture shows an inefficient trend in the distribution of technical equipment in terms of power. A large part of the total power of tractors delivered to agriculture goes to replace those that are malfunctioning and not to increase the total power of the fleet of tractors.

Improvement of the structure of consumption of machine building products presupposes further improvement in the ratio between the technical equipment of various technical and economic levels that is utilized, the productivity, the age composition, and so forth. A progressive tendency in production and consumption is the steady growth of the main technical characteristics of the

machines--productivity and power in the fleet. Thus the average power in the fleet of tractors increased 1.58-fold during 1965-1969, or from 48.2 to 73 horsepower, which surpasses the corresponding indicator in the United States--about 60 horsepower. The increase in the average power in the fleet here outstrips the increase in the total power of the fleet of tractors.

It is quite understandable that an increase in the average power of the tractors that are utilized involves the assimilation of the production and deliveries to agriculture of powerful tractors: MTZ-80/82, MTZ-142, T-150K, K-700 and others. An increase in the proportion of more powerful tractors makes it necessary to improve their utilization and the structure of consumption in the various regions and zones of the country, to increase their efficiency factor and to study the most effective spheres of their application.

Another direction for improving the structure of production and consumption of agricultural equipment is optimization of the type characteristics of the machines. On the kolkhozes and sovkhoses there is an extremely large number of makes of technical equipment, which is a real problem in agricultural production. Research shows that each farm has an average of up to 18 makes of machines even though it is expedient to have from two to six. The numerous makes and duplication in production and consumption of tractors reduces the effectiveness of their operation. One of the means of overcoming this situation is a distribution of tractors among the various regions and zones of the country which will create a uniform fleet of tractors on the kolkhozes and sovkhoses and envision such regionalization in the future.

The steady increase in power places increased requirements on the degree of intensive and extensive utilization of the tractors. Practice shows that powerful new tractors are far from fully taking advantage of their maximum characteristics because of the lack of supply of all the necessary set of implements that are combined with them, and they frequently stand idle. As a result, the economic effectiveness of the application of especially powerful tractors in agriculture decreases and their advantages are not fully realized. Incomplete deliveries of tractors have a bad effect on the organization of work on the kolkhozes and sovkhoses and reduce the economic indicators of production.

Another serious reason for inefficient utilization of powerful tractors is that they are scattered throughout the country, the first series of new tractors being delivered to various farms of the country. Yet calculations show that when a farm acquires one tractor, even a powerful one like the T-150K instead of the T-74, this not only does not produce an effect, but also causes a loss of 500 rubles during the year. Only with the introduction of a large number of tractors and the simultaneous replacement of the entire fleet of T-74's on the farm with T-150K's does one achieve a significant economic effect--1,200-1,500 rubles from each tractor.

The inexpediency of using powerful tractors one at a time is also obvious because of the sharp increase in expenditures on agricultural equipment that is used with the tractors. The norms developed by the Ministry of Agriculture for delivery of equipment in batches are oriented toward the use of a group of tractors at the same time. Thus according to these norms,

when five tractors are sent to the farm the need for disk harrows decreases 3.3 times, tooth harrows, cultivators and grain seeders--1.7 times, rollers--1.2 times, and so forth. It is obvious that planning agencies should take these factors into account when formulating orders for agricultural equipment which the kolkhozes and sovkhozes need. It is also necessary to improve the quality of the formulation of the orders and to increase the responsibility for their reliability, since the practice of increasing them leads to significant economic losses and causes interruptions in production planning. For example, agricultural machine building plants were forced to curtail the output of cotton pickup machines from 10,000 to 4,300 even though the initial demand during 1976-1980 was calculated at 19,000 and was limited to 10,000. The orders placed for the 11th Five-Year Plan have been increased to 21,700, and the annual program will amount to 4,500.

The tractors are used on the kolkhozes and sovkhozes from 150 to 250 days during the course of the year. This indicator must also be increased because of the increased proportion of powerful tractors in operation. The service life of tractors used in agriculture cannot be recognized as optimal: judging from the figures concerning the number written off annually, it amounts to approximately 8-10 years. Therefore as technical equipment becomes available, in our opinion, in addition to introducing the latest models of agricultural equipment it can be effective to utilize older but still operable tractors with relatively simple construction. Thus in foreign countries at regular auctions for selling second hand tractors they offer operable tractors produced in the 1950's and even in the 1940's. It is obvious that it would be most effective to have an optimal combination of intensive and extensive factors in increasing agricultural production, depending on the zones, farms and spheres of utilization of agricultural equipment.

One of the main reserves for increasing the effectiveness of the utilization of machinery is further improvement in technical servicing, repair and supply of spare parts. With the existing arrangement of this business, expenditures on spare parts and repair are extremely high. The level of technical servicing and training of machine operators does not meet modern requirements. As a result there are immense amounts of idle time on sets of equipment, their operation is complicated, and losses in agricultural production amount to significant sums.

The labor-intensiveness of the repair of agricultural equipment exceeds many times over the labor-intensiveness of its manufacture, which is explained to a considerable degree by the fairly poor quality of manufacture of components and parts and the level of the repair base. On the whole the annual expenditures of the national economy for capital and current repair of machines and equipment amount to an extremely significant sum--about 14 billion rubles. A considerable proportion of funds are spent to maintain agricultural equipment in operating condition, and one cannot say that all these expenditures are economically justified. For example, according to data of the USSR Central Statistical Administration expenditures on amortization of working machines and equipment used in agriculture amounted to 2.2 billion rubles in 1976 and expenditures on capital repair of agricultural equipment in 1975 amounted to 1.3 billion rubles. At the present time this sum has approached 5 billion rubles.

Despite the large expenditures, the condition of agricultural equipment and the supply of spare parts for it remain unsatisfactory. The system of technical servicing and repair of agricultural equipment requires radical restructuring since it is quite obvious that the level of organization and the quality of technical service and repair does not correspond to the quantity of modern machines and equipment delivered to agriculture.

In our opinion it is possible to provide for further intensification of agricultural production only with the introduction of resources in the sphere of technical servicing and repair. In the existing situation the potential effectiveness of resources used in the sphere of technical servicing and repair should be greater than in the sphere of production of new equipment. But the dispersion of funds for repair causes them to be used practically at a loss.

In this area of activity there is no unified technical policy, planning or material and technical support. Repair enterprises are poorly supplied with funds for metal. But the most serious problem is the organization of the supply of spare parts. There are no unified normatives for spare parts or centralized accounting for their consumption, planning and production. Despite the fact that production and repair enterprises of the country produce tens of millions of rubles' worth of spare parts, there are clearly not enough of them. At the same time as many repair enterprises are experiencing a critical shortage of spare parts, and because of the lack of them many tractors are dismantled, the farms of the kolkhozes and sovkhoses are storing up immense surpluses of spare parts.

We are becoming increasingly convinced that the sphere of technical servicing is becoming an independent, although scattered branch of the economy, which employs hundreds of thousands of workers, machine operators and engineering and technical personnel, and an immense fleet of machines, technological equipment and means of transportation are concentrated in it. Because of the increased scope of technical servicing and expenditures on technical services, there arises a need for further improvement of the administration of this area of activity. Therefore to take a comprehensive approach to the analysis and planning of the development of interconnected branches involves determining the most progressive and promising forms of technical servicing as an important means of increasing the efficiency of the utilization of machines. One of these forms is the creation by the manufacturing enterprises of support points for service work on the machines they produce in the places where they are most concentrated and technical assistance to the operators.

Support should be given to the idea expressed on the pages of EKO concerning repair (service) by the enterprise itself which produces the machines and equipment.* Technical equipment is now being repaired by many plants and shops, frequently semi-primitive ones, which are far from having the technical supply and labor organization of those which manufacture the products. It would be more efficient to eliminate these semi-primitive enterprises and shops and use all of the resources they have to create a large specialized plant which would engage exclusively in servicing technical equipment for the consumers, producing spare parts and so forth. Such a plant should have branches that are located

*EKO, No 9, 1981.

close to the places of mass operation of the machines. It seems that these suggestions require development with respect to the utilization of agricultural equipment as well.

Finally, foreign experience in organizing technical servicing can be utilized more actively. For example, large American firms have a unified system for sales and technical servicing of agricultural equipment which includes a ramified network of central offices, warehouses and delivery points which work continuously to study and generalize market requirements that are to be met by the enterprises, and they promptly organize training of technical personnel, instruction of the farmers on the rules for operation and technical safety, various consultations and so forth. The producer plants guarantee the delivery of practically any part within 24-48 hours. Modern warehouses equipped with electronic computers store spare parts for a period of 10-15 years after the model has been removed from production.

In recent years, as a result of design and technological developments of agricultural machinery, the labor-intensiveness of technical servicing has decreased by 10-15 percent and there has been a considerable increase in the coefficient of readiness of the technical equipment. Of the 128 newly developed machines, 83 have a coefficient of readiness of 0.96-1.0. But the realization of this potential effectiveness involves a thrifty attitude toward it in the sphere of direct utilization of the equipment, with observance of the rules for its operation, a level of qualifications of the machine operators and so forth. For more complete realization of all the possibilities of technical equipment, in our opinion, it would be expedient to increase the effectiveness of the inventor's supervision of the utilization of new machines and equipment and to envision measures for material incentives for developers, producers, repairmen and operators for efficient and reliable work and the achievement of optimal technical and economic indicators in terms of power, productivity and durability, having established the appropriate normatives of utilization for this.

Thus a comprehensive approach to planning the branches envisions the realization of the principles presented above, and the disclosure and analysis of factors, indicators and causes that impede or contribute to increasing the final results of the activity of the branches and the effectiveness of production, and it presupposes balanced development of the enterprises and organizations of a whole number of branches included in the system of the Ministry of Agricultural Machine Building, Goskomsel'khoztekhnika and the Ministry of Agriculture. A comprehensive approach to planning machine building presupposes centralized efforts for developing new technical ideas, the creation and production of machines, the operation of technical equipment, and its distribution, service and repair. One of the most effective forms of controlling this process is comprised of national economic and branch special-purpose comprehensive programs which have been developed and introduced. In particular, a whole number of large interbranch problems can be resolved by a comprehensive program for the development of the country's repair base which is being prepared in the system of Goskomsel'khoztekhnika.

An important advantage of this approach consists in that comprehensive planning makes it possible to determine the most effective directions for scientific and technical progress and the development of the branches. Thus the total national economic effect from the implementation of the system of machines in the area of crop growing amounted to more than 11 billion rubles during the 10th Five-Year Plan, which was 17 percent more than in the preceeding one. In the subsequent period this effect has been increasing even more as a result of the creation of sets of machines for cultivating the main agricultural crops. The new system of machines is an effective means of comprehensively coordinating the production and consumption of products and is a kind of program for further raising the level of satisfaction of the demand for agricultural equipment and increasing the efficiency of agricultural production. The task consists in promptly and fully assimilating and realizing all positions of this system.

The prerequisites are already being created for a comprehensive approach to planning the development of the branches, and the main points and principles are being partially realized. In tractor and agricultural machine building, where the new methods of planning and economic stimulation are being applied for the first time, the activity of all-union production associations, production associations, scientific production associations and enterprises has been comprehensively evaluated for a long time, including a determination of the total national economic effect and the degree of satisfaction of national economic needs. Another new element in planning the development of branches which contributes to raising the level of balance is the establishment of optimal time periods for the production and operation of agricultural equipment and the optimal fleet of machines. We are introducing methods of special-purpose program planning of scientific and technical progress, the technical level of machines and equipment, and so forth. Industry also has experience in determining the volumes of products in conventional units which reflect the qualitative parameters of the items. A methodological base is being formed for calculating the economic results of the qualitative commensurability of the output of machines and the balanced development of the branches.

The changeover from the creation and introduction of individual machines to the development and application of complete systems of machines places increased requirements on the system of indicators that are used for planning scientific and technical progress and evaluating the economic activity of machine building enterprises. It would be expedient to plan and evaluate the level of the production and economic activity of machine building branches not only in terms of the quantity and quality of various kinds of technical equipment they produce, but also in terms of the degree of proportionality and comprehensiveness of the development of consumer branches that has been reached. Thus the evaluation of the economic activity of tractor and agricultural machine building and machine building for animal husbandry and fodder production could be given in terms of indicators of the comprehensiveness of the mechanization of all kinds of agricultural work and in terms of the effectiveness of the entire complex of machines intended for mechanization of field work or work on animal husbandry farms. Following the example of these and several other branches, it would also be expedient to develop and introduce systems of machinery for the majority of machine building branches and to evaluate their activity in terms of the degree of its assimilation and introduction of these systems, having

established beforehand the corresponding stages of their assimilation. The realization of the main principles and points of a comprehensive approach will make it possible to increase the scientific substantiation of planning the development of branches of machine building and will contribute to increasing the efficiency of agricultural production.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

ROLE OF ADVERTISING AT LVOV ENGINE PLANT EXPLORED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 37-48

[Article by M. Ye. Leonov, candidate of economic sciences (Lvov): "The Strategy and Tactics of Plant Advertising"]

[Text] It is perhaps strange to call for the development of industrial advertising at a time when we are experiencing a shortage of various goods. The country has fairly good associations for commercial advertising, but many industrial enterprises do not even have small advertising divisions. And trade organizations advertise only those goods which come to the bases, warehouses and stores, and therefore there are frequent cases where a manufactured item, "which the people need but which has not received adequate publicity seems to die before it was born," as is correctly pointed out in one of the articles of the collection being published.

It is not difficult to note that industrial managers, as distinct from trade managers (who constantly think about advertising), use advertising only when "the area of the plant is crammed with unmarketable goods."

Yet the significance of advertising is manifested primarily in that it precedes the delivery of a new item to the trade network and prepares the demand.

Products are being updated or their main qualities are being improved at more rapid rates. We see this at enterprises of the USSR Ministry of Instrument Making, Automation Equipment and Control Systems, the Ministry of the Radio Industry and in other branches. This circumstance requires no small amount of additional effort on the part of the services of enterprises and associations themselves, and also on the part of intermediate advertising organizations.

With this selection of materials the editorial staff wishes to draw the attention of production managers to that which they forget about in their daily routines, and the editorial staff is prepared to offer any author space for discussing positive experience in utilizing advertising--both his own and commercial advertising.

The advertising bureau was created at the Lvov engine plant in February 1970. We did not manage to find similar services at other enterprises, and the bureau's first steps were experimental. The main difficulty consisted in that advertising had to be organized at a time that was difficult for the plant. There had ceased to be a demand for its items: motor bikes were produced in a quantity that exceeded trade orders 2.7-fold, and mopeds--3.3-fold. The area of the plant was crammed with unmarketable products.

Where Does One Begin?

The strategic goal of the advertising was defined as follows: "By discussing the innovations at the plant and the new products (whose output had been started), to contribute to restoring and consolidating the enterprise's prestige in assimilated and new sales markets. To contribute actively to expanding the sales market."

In order to explain all the stages of the life of small motorized vehicles, the specialists in advertising (we call them advertisers) studied the dynamics of the delivery of these goods by all enterprises that manufacture them for retail sales and the dynamics of the curtailment of their operation both in the past and in the future. The life cycle of motor bikes turned out to be different from that of mopeds and therefore a different kind of advertising was required: for motor bikes--reminders, and for mopeds--introduction.

While advertising certain goods in our country has been developed to a certain degree, prestige advertising (advertising of the plant) is a relatively new area. The engine plant conventionally decided to understand prestige advertising as informative activity for creating a favorable public opinion about the enterprise, for in the past people had spoken about it with a lack of confidence.

Initially we were courageous enough to prepare independently or help journalists to write various informative materials to be disseminated through the mass media. They studied the great authority of these publications among the population and the possibility of covering a significant territory. In parallel they began to organize, supervise or participate in mass cultural, sports and other measures that were covered by the mass media.

On the assimilated sales market the plant advertisers decided to devote more attention to prestige advertising than to product advertising. It formulated an overall thesis of prestige advertising which was calculated for the long-range future: "The plant produces products by modern methods, maximally taking into account the opinions of the consumers." This thesis was not unsubstantiated. It was reinforced by a restructuring of the system of production, the introduction of the advanced practice of other enterprises, the replacement of outdated

equipment, and improvement of the quality of labor and discipline. The plant workers began to use innovations more willingly, and they began to take initiative which was extended to other enterprises of the oblast and republic.

In order to keep up with what is being done at the enterprise and how, the advertisers became constant participants in production meetings and conferences, studied the reports of the activity both of individual subdivisions and of the plant as a whole, and established permanent contact with divisions for new technical equipment, technical control, sales and planning, the bureaus for sports machine and the laboratories to test reliability.

The plant workers developed a trademark so that those who received information about the plant and its products would keep a graphic image in their minds. It became a compulsory element of many of the plant's projects, its items and its advertising materials.

Who Purchases, Where and When

Trade organizations and the population, naturally, are the objects of plant advertising. There have never been any special difficulties in bringing advertising to retail and wholesale trade workers: verbal statements, trade advertising publications, special newspapers and magazines. It is more difficult to work with the mass consumer since it necessary to know who purchases the plant's items. A license to drive a moped can be obtained by anyone who is 16 years of age, and a motor bike can be used by anyone, even without a license. The advertising service studied the actual contingent of owners of motor bikes and mopeds, and also the peculiarities of their attitudes toward the plant's products. This essentially important information was obtained after a postal questionnaire of the owners. The advertisers learned that the trips are local: during the day they cover an average of 15 kilometers. The main purposes of the trips are to go to work, to do errands and for recreation.

The motorized vehicles were acquired mainly by people 30-49 years of age, and residents of small cities, suburban zones and rural areas, mainly industrial workers (53 percent) employed at some distance from the residential areas or those whose work requires frequent movements (electricians, sanitary technicians, loaders). Family members with relatively small incomes purchased the plant's products.

The plant workers adhered to a general principle: "The geography of the distribution of the advertising should correspond to the geography of the delivery of the products." The advertisers preferred to keep the characteristics of the assimilated market in the form of cartograms--an important aid, as it turned out, not only for them. The Ukraine occupied a special place in the sales market: the plant delivered 40 percent of its products to consumers of the republic, and therefore another principle was: "Up to 40 percent of the advertising expenditure should go for measures within the Ukraine." The cartogram of the distribution of the fleet of motor bikes and mopeds in the republic was made in a cross-section of the oblasts, and therefore each of them required different advertising. In order to see clearly the new possibilities of selling products, such cartograms were then drawn up not on the basis of questionnaires, but on the basis of data from the sales division.

With What Forces and How Does One Work?

The advertising bureau of the Lvov engine plant was organized under the division of the head designer. Why not under the sales division? In the first place, the division of the head designer had a table of distribution which allowed the creation of such a bureau. Moreover, this division, in conjunction with scientific workers, already conducted research of the sales market. In the third place, the bureau for scientific and technical information, which had previously been responsible for advertising, willingly transferred or reassigned to the division of the head designer the preparation of advertising publications and exhibits. In the fourth place, the sales workers preferred to fulfill only the functions of sales of products, and they did not wish to prepare the market for them.

The advertising bureau consisted of four people: the chief (merchant-trade organizer), the editor of text, the graphic artist and a technician. Time demonstrated that this composition of the advertising service is quite adequate if the work for studying the demand and the market is also assigned to special outside organizations.

The main task of the bureau is to develop a plan for the creation and distribution of advertising which provides for achieving a strategic goal. The advertisers were armed with the majority of existing means of advertising. In their work they could count on help from the plant photography laboratory and the experimental shop. The photographers, for example, helped them to change over from drawings to photographs, and the experimental shop arranged the output of small batches of souvenirs.

The Assortment of Means of Advertising

When formulating the tactical points, the plant advertisers did not forget about folk wisdom: "It is better to see something once than to hear something seven times." In order to smooth out the old prejudices of the consumers and create new ideas about the plant's products they decided:

to utilize various means of advertising with a subsequent selection of the most effective ones. To give preference to those means which make it possible on a large scale and in detail to discuss the development of the enterprise and its products and to combine demonstration and discussion of innovations;

to conduct advertising in parallel, for wholesale consumers and the population;

to conduct research that helps to increase the effectiveness and improve the quality of advertising;

to adhere to a single style of advertising in the trademark and in the way it is presented (script, color), and so forth.

The means of advertising were determined depending on the consumer: for trade workers there was advertising in their professional publications and souvenirs; for the population there were mass advertising publications, demonstrations of the products in action, television and movie advertising, mass press publications, and billboard advertising.

The products can be presented more extensively in special advertising publications, but the number of readers and the zone of distribution of these publications are not great. They decided to compensate for this circumstance by using other means of advertising. A special role was assigned to demonstration of products in action, and extremely effective forms were found: trips and competitions for driving on obstacle courses. The first trip was on the route from Lvov to Ulyanovsk, which goes through assimilated sales markets.

Taking into account the fact that information that is read is recalled best, in their ties with the mass media the plant workers relied on the editorial staffs of newspapers and magazines, and on television they only gave brief announcements about the plant and the products.

They placed permanent billboards in the Druzhba stadium in Lvov, where football games between teams of the highest league attract up to 40,000 spectators and, the main thing, the matches were broadcast on Ukrainian and central television so that millions of people could see the billboards.

Expenditures and the Scope of Influence

In 1970-1978 expenditures of the Lvov engine plant on all kinds of advertising amounted to 330,000 rubles. This amount increased three-fold during these years. The increase is natural because the plant's products were updated every two years, the assortment was expanded (they began to produce bicycles and scooters for children) and an ever increasing quantity of items made their way not only to the European part of the country, but also to the Asian part and, finally, they began to export products.

It is difficult to speak about any planned expenditure of funds on advertising because the situation changes each year. Thus the largest quantity of funds on advertising in the press was spent in 1978.

With time they avoided increasing costly movie advertising. The average expenditures on advertising amounted to 0.05 percent of the cost of the plant's commercial output.

The scope of advertising in the press is most impressive. Each year the number of publications increased more than six-fold. The press was used most extensively in 1973 and 1978 when the majority of publications organized the Moscow advertising combine, Telepresstorgreklama, and the Kiev agency, Telepressreklama. It was during these years that the level of information of the population concerning the plant's products was the highest. The street and the store ceased to be the main place for the first encounter, for example, with the Verkhovina moped. The majority of plant publications (85 percent) were in newspapers. As the authority of the plant trademark was restored, we reduced the quantity of informational materials of a prestige nature.

During the ten years the enterprise's advertising service established ties with more than 50 outside organizations. These were primarily advertising intermediaries: manufacturers of means of advertising (typography, artistic shops and factories), the bearers of advertising (mass media) and organizers of advertising

(special organizations that produce and disseminate advertising information). Moreover, business contacts were established with scientific research institutions that were responsible for consultation regarding the plant's advertising activity. The main forms of work with these organizations were one-time orders or contracts for a particular period of time.

The experience of the engine plant showed that the broader the scope of product sales, the more expedient it is to cooperate with advertising intermediaries to whom the enterprise paid no more than 20 percent of the overall cost of the services. While in the first years the initiators of the relations with the outside organizations were most frequently the plant advertisers, in recent years advertising intermediaries themselves are sending the plant letters and suggestions for cooperation to which they attach a list of services and prices. The plant's order is usually sent in the first 10 days of August to all the main advertising intermediaries, who in September form work plans for the next year.

Restructuring on Route

A questionnaire which the plant distributed to owners of Lvov mopeds in 1977 throughout the country unexpectedly showed that the information available to the population about the product--the main indicator of the effectiveness of advertising activity--began to decline in 1974 even though expenditures on advertising increased. What happened?

The attitude of the enterprise's managers toward advertising changed. Actually they never tried to present completely the possibilities and specific features of advertising. The apparent simplicity of this activity brought about a paradoxical phenomenon: as soon as the managers began to consider themselves specialists in this sphere, the quality and effectiveness of advertising decreased.

On instructions from the plant director in 1974 the advertisers stopped cooperating with consulting specialists for studying demand and organizing advertising. The painstaking, systematic and scientifically substantiated work was abandoned just at the time when experimental design work was developed (it could not be stopped and then started again . . .). They began to give the advertising bureau labor-intensive work which did not pertain to advertising, for example, preparing and publishing accompanying commodity documentation in Russian and foreign languages, which required up to 80 percent of the working time of the advertisers.

In 1976 the advertisers were transferred from the division of the head designer to a new subdivision of the plant--the bureau of export. They ended up under dual jurisdiction and were faced with a new task: to expand the advertising of products on the foreign market.

All these events led to a situation where the information for the population of the country began to decline as compared to the first years of operation of the advertising service.

But the difficulties that appeared regarding the sale of mopeds with a principally new engine and the desire to expand the domestic market forced the plant managers to change their attitude toward advertising and even separate the advertising service into an independent subdivision under the jurisdiction of the deputy director for supplies and sales. The rebirth of the service corresponded with the time when the demand for the plant's items had stabilized, although as a result of new sales regions the number of wholesale clients increased from 230 to 480. With the increased fleet of such machines the position of the state automotive inspection became stricter. It began to demand a license plate and a driver's license--this caused a considerable part of the potential customers (especially middle aged ones) to refrain from acquiring mopeds. Therefore an educational task came to the fore in advertising work: to advertise the products in combination with propaganda about operating and servicing them and safety on the roads.

Two new areas were now introduced into prestige advertising: 1) the dissemination of information about the expanded network of guarantee repair shops, paid repair and production of spare parts; 2) demonstration of modern methods of producing products that take into account the opinion of Soviet and foreign consumers and emphasize the concern of the plant collective for reliable operation of their items.

The main consumers were not of one age group, as before, but of three: up to 20 years (34 percent), 30-49 years (30 percent) and 50 years and older. The leading position now was occupied by youth, mainly students, and second place was occupied by pensioners. The proportion of the former increased 4.5-fold during the seven years, and the latter doubled. The number of both groups increased rapidly, and their demands and psychological peculiarities were frequently opposed. Thus youth, as the advertising service explained, prefer bright vehicles with shining parts and a sporty outline, while people over 50 value reliability and suitability for trips to hunt mushrooms, fishing, hunting or to the dacha. Therefore the planned advertising became more differentiated and inventive at this time.

At the same time the plant decided to do without the services of numerous outside organizations, transferring the majority of organizational-production advertising problems to the shoulders of several organizations, but special and powerful ones. The main advertising intermediaries were organizations of Telepresstorgreklama in the state trade system. Such a reorientation was not random: by that time light motorcycles had appeared on the domestic market and compared to them the Lvov vehicles, because of their technical capabilities (primarily power) no longer drew mass consumers in rural areas. Therefore the volume of advertising intended for the rural population was reduced.

The adjustment to the strategy for advertising activity involved a revision of the majority of the previous tactical requirements.

Planning Advertising

The Lvov engine plant draws up two plans for advertising activity: annually and monthly. The former is approved by the director and the latter, by the head designer. A great deal depends on the traditional time periods for the two order

campaigns: 1) interplant, when orders are submitted to the division of material and technical supply for the demand, for example, for coated paper or polyethylene (March); 2) nonplant, when the advertisers send orders to the advertising intermediaries for services in the next year (July-August).

Before it is sent to the advertising intermediaries the draft of the planning estimate is coordinated in all the subdivisions of the plant, on whom prompt and high-quality advertising measures depend either directly or indirectly (the time for approval by each subdivision is ten days). In December, after contractual ties have been established with the advertising intermediaries, the list of services and expenditures is refined and the final variant of the planning estimate for the advertising work are submitted to the plant director for approval.

The main point of the planning estimates is the fulfillment of the majority of plant advertising actions by special organizations. The first part of the plan (the main one) is also devoted to interrelations with them. The second part lists the measures which can be utilized both for carrying out certain major tasks and for advertising purposes. Advertisers are not responsible for carrying them out.

The advertising service at the Lvov engine plant played a significant role in expanding the sales of new products (in 1980 the deliveries increased appreciably as compared to 1976) and restoring the plant's prestige. While in 1970 only every fourth customer was familiar with the Verkhovina moped because of advertising, in 1978 every second customer was.

The effectiveness of advertising depends to a decisive degree on the scientifically substantiated methods for the activity and on the ability to put these methods into practice. In all stages of the development of the plant advertising service, accounting for street strategic and tactical goals justified itself. To ignore them leads to a sharp reduction in the effectiveness of advertising and to unthought-out and even unsuccessful actions.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

COMMERCIAL ADVERTISING VIEWED AS AN INDEPENDENT ECONOMIC SECTOR

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 49-57

[Article by L. I. Grimberg, director of the Volna inter-oblast advertising agency (Kuybyshev): "Commercial Advertising--An Independent Branch"]

[Text] There are two forms of organization of advertising in effect in the country--branch and territorial. Advertising has been created in industry, state and cooperative trade, and in branches that serve the population. The largest of the advertising organizations are the all-union Soyuztorgreklama association and the republic Rostorgreklama association.

"Soyuztorgreklama" is an autonomously financed organization which has jurisdiction over republic combines that comprehensively serve trade and industry with all kinds of means of advertising within the republic. The centralized service of this association, the large Reklama agency, is located in Moscow. One of the most important tasks of Soyuztorgreklama is to organize and conduct all-union and republic advertising campaigns for individual kinds of goods. The campaigns are conducted on orders from the union industrial ministries and associations whose enterprises produce consumer goods and also large trade organizations.

In the USSR advertising work on orders from state trade and public catering is done by the republic Rostorgreklama association. Its permanent clients are the republic wholesale offices of the RSFSR Ministry of Trade, large retail trade enterprises and also many industrial ministries and departments of the Russian Federation. The Rostorgreklama association includes 9 combines (in Moscow, Leningrad, Gorkiy, Kuybyshev, Volgograd, Sverdlovsk, Rostov, Lipetsk and Kazan) and the Kuybyshev inter-oblast advertising agency, Volna. The combines do decoration work for the trade and public catering enterprises, manufacture blocks of lighting and neon signs and certain kinds of standard advertising supplies.

The rapid growth of advertising services and their busy activity requires coordination of efforts for more effective expenditure of funds allotted for advertising. By a special government decree, the international council on advertising was created under the USSR Ministry of Trade. Among other duties, it is responsible for coordinating advertising work for industry and trade. Similar advertising councils have been created in other union republics as well.

The First Steps to the Mass Consumer

In 1973 the Kuybyshev Oblast trade administration created a specialized advertising group for cultivating the tastes of potential consumers, developing their demands and actively forming the demand for goods by influencing the art of trade. A plan was conventionally outlined for the group for rendering advertising services in a volume of 7,000 rubles a year. But the demand of the enterprises was such that even after two years this plan amounted to 200,000 rubles. In addition to advertising goods and services, a new goal appeared-- to train advertising specialists and advertising scientists for trade and public catering enterprises and wholesale bases.

In 1978 the Volna autonomously financed inter-oblast advertising agency for commercial advertising was created in Kuybyshev Oblast. This was the first organization of its type in the country (a second agency like this was recently created in Minsk). It handled the generalization and dissemination of experience in commercial advertising, the study of methods for increasing the effectiveness of advertising measures, and the development and introduction of new forms and kinds of advertising in trade. Its influence also spread to neighboring oblasts. Thus divisions of the agency were created in Ulyanovsk, Saratov and Orenburg. The annual plan for advertising services rendered by the Volna agency in 1981 increased to 1 million rubles. Our main task is to render intermediary services to the enterprises: advertising on television, radio and in the newspapers, printed products (booklets, prospectuses), and the distribution of prepared advertising publications through Soyuzpechat' and postal organizations.

We have our own small production base, without which, as the work experience of the agency has shown, it is impossible to fulfill our function, and in particular we need a printing base for small volumes and other copying equipment which makes it possible to fill rush orders. Only then can advertising announcements appear on time and inform the consumers promptly.

Under the 10th Five-Year Plan the agency gathered force. That which had been tested in practice was put into action: the workers were changed over to fixed salaries and wage rates; a new system for handling orders was introduced (package), which helped to control the filling of orders at any stage; they utilized materials and time correctly; a system of bonuses was established for the basic and auxiliary workers; instead of one-time calculations for the performance of work, rates were introduced for several kinds of services; and the structural arrangement of the agency was changed.

It is impossible to calculate the economic effectiveness of advertising, but it is possible and necessary to consider the percentage of population reached by the information. Our calculations for conducting advertising campaigns are sufficiently broad and intelligently developed. The effectiveness of advertising is evaluated in terms of its ability to change the opinion of the potential consumer in favor of the advertised product and depends on correct application of the corresponding forms and means of influencing the consumer. With our help, certain products for which there was no demand, but which were good and necessary entered the ranks of popular ones: these include, for example, air purifiers, sago groats, wing meat and other goods and products, and there was even a critical shortage of Skif trailers. The agency's sociologist conducts constant correspondence with 150 families of the city of Kuybyshev, studying the influence of advertising on the demand.

The goals set for the agency under the 10th Five-Year Plan were achieved and the plans were fulfilled. The only tasks that were not carried out were those related to centralized material and technical supply. This had an especially negative effect on movies and slide shows for television. Because of the inadequate delivery of color film, contracts with the clients were not fulfilled. The lack of the necessary equipment is an impediment, which, just as a lack of materials, makes it impossible to work with guaranteed deadlines. The main thing in advertising is to precede the goods, and not to appear after the goods are already in the stores and an opinion about them has already been formed, even though it is not always a correct one.

That we are on a correct path is also shown by the fact that in September 1980 at the regular meeting of the international council for advertising under the USSR Ministry of Trade it was suggested that Rostorgreklama and Soyuztorgreklama generalize the work experience of the Kuybyshev Volna advertising agency and make proposals for creating similar agencies in the oblasts, krays and union republics, which will make it possible to take fuller advantage of the mass media for advertising goods and services.

Unsolved Problems

We are concerned about the negligent attitude toward advertising on the part of managers of enterprises that produce consumer goods. The lack of attention to advertising as an active instrument of communication between production and consumption ends up in direct losses. Many workers of industry and wholesale bases see their participation in advertising goods that are in mass demand only in producing instructions (from which, incidentally, one cannot always understand how to use the purchased item correctly) and several posters and albums with photographs of the goods to be shown when delivery agreements are concluded. But industrial enterprises, as a rule, do not engage in widespread advertising of their products, especially innovations.

But who if not they should bear the basic load in expenditures on advertising? It is precisely industry that should be primarily interested in selling their items. And who knows better than the manufacturer the features, advantages and shortcomings of the product? Who if not the specialists who have developed the technology for the new item can give correct information about it?

Now all of the responsibility for advertising goods--moral and material--lies on the shoulders of retail trade, which is essentially incorrect. Industry and wholesale trade should not bypass the opportunity to conduct advertising measures. The first advertising of new goods should appear before the first batch of the goods appears in the stores. The customers first become acquainted with the goods when they first appear. And the customer already knows what it is and he is prepared. During this period it is easier to find out whether this product is necessary or if there are some complaints about it from the consumers; the demand for it is correctly formed. In this case advertising should exert an active influence on the demand by providing correct and objective information.

In a specialized library of the agency they keep an organized section called "Bad Workmen." Here they keep track of the enterprises that manufacture those goods against which there are the most complaints from the consumers about quality. This section is under constant supervision. The editors and compilers

of texts check the card catalogue of Bad Workmen before beginning to fill orders. And only after they have been convinced that the product submitted for advertising has nothing to its discredit do they begin to work.

Once a client submitted for advertising a test batch of Sadko tape recorders. Having attentively studied their qualities and external appearance, the agency recommended that the equipment be returned for improvement. And the tape recorder did not appear on the market. And it is too bad because it could have been improved and produced in a new variant.

Enterprises of industry and wholesale and retail trade most frequently engage in advertising separately. But in order to improve the overall matter it is necessary to cooperate in using the funds allotted for advertising: this saves money, makes it possible to conduct advertising campaigns that bring information to more of the population, and increases its effectiveness. The potential consumer receives more complete information about the goods.

Now, when the agency has been in operation for 8 years, one can say precisely that the main thing that impedes the development of advertising is inertia. It causes harm to the sale of products and artificially holds up commodity turnover. Unfortunately, it has still not become a rule for the producers to prepare the market for their items and to form public opinion.

Another factor that impedes the development of advertising is the lack of interconnections between the information-dispatcher service and the study of demand and advertising. Any conclusion about the demand for a product can be reached only after advertising has discussed it completely enough and the dispatcher service has distributed it correctly. In order to draw conclusions the demand service must have information about the sale of the products before and after advertising. The lack of interconnections among these three services and the lack of a methodology for their interrelations also has a harmful effect on commodity turnover. The service for studying demand frequently includes goods that are not well known among the consumers among those goods for which there is no demand. In this event an item which the people need but which has not become sufficiently well known seems to die before it is born.

One should single out four stages in the study of the demand for a new commodity:

familiarization with the innovation or reminder of it by means of mass information;

preliminary study of the demand;

according to the results of the study of the demand--increased advertising influence on the potential consumer if the item is of good quality;

analysis of the final study of the demand and conclusions.

In all stages it is necessary to have coordinated action on the part of the manufacturers of the products, and trade and advertising workers.

What Lies in the Future?

In 1981 we began to introduce scientifically substantiated recommendations for structural changes in the agency. Regulations concerning the subdivisions and tables of distribution were developed, a system-functional analysis was conducted of the activity of the main categories of workers (advertising scientists, editors and compilers of texts, and psychologists), and a unified standard form was created for the program of the advertising campaign.

It is now necessary to enlist economists, psychologists and sociologists to cooperate in this. We understand that without scientifically substantiated conclusions and suggestions it will be increasingly difficult to proceed further. It will be necessary to solve a problem: should psychologists and sociologists be on the staff or of the agency or should experts be brought in from outside. We think that they should be on the staff so as to be more aware of the peculiarities of the advertising process in its details and as a whole. Even today it is no longer possible to influence the movement of an innovation from the time of its manufacture to its purchase just by one-time, random announcements in the newspaper, on radio or on television: the return from this is not complete. It is necessary to control the consumer flow skillfully on the basis of scientific conclusions and proposals.

For the 11th Five-Year Plan the agency has drawn up a long-range plan for development. It is intended to put into action a complex of tape recordings and also a facility for manufacturing color slides for television commercials and also to be presented at trade and public catering enterprises. An advertising salon called "New Products" will be opened. Its main tasks will be to inform the consumers about new products, to provide consultation, to publicize the useful qualities and the rules for utilization of unknown or less known products, and also to provide information (including on the telephone) about the location of stores that handle certain products and to study the effectiveness of the influence of advertising on the potential customer. In the advertising salon one can not only see the new product but also try it. Products will not be sold here, but one can become completely familiar with them--one can come here several times with the same question and receive the necessary answer without worrying about encountering indifference: for the main duties of the salon workers are related to consultation. The more people become familiar with new products, the more confidence they will have that the item they purchase will be useful in the home.

Commercial advertising is gathering force in the country. It has already been formed into a new branch. And the longer we put off a comprehensive solution to problems of advertising, the more harm will be done to the country's commodity turnover.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

QUALITY OF RETAIL ADVERTISING NEEDS IMPROVEMENT

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 57-60

[Article by A. I. Sviridyuk, advertising engineer, Kiyevskiy Radiozavod Association: "Advertising and Sales"]

[Text] Once there was an unfortunate occurrence with our Slavutich television set. The market survey of the institute for studying demand under the USSR Ministry of Trade indicated that the quantity of television sets of this make on the sales market exceeded the demand for them. One after another the trade bases rejected the allotted supplies and warned that the television sets would not be accepted if they were shipped without their agreement. The plant specialists and the workers of the division of sales, the experimental design bureau, and the laboratory for standards and quality were confused since the Slavutich, in terms of its technical specifications, was as good as other sets that were being sold.

The quality control of the product was strengthened even more. For example, they introduced additional testing of the television sets before packaging. The television sets were left on all night and then the adjusters eliminated all the defects that were revealed and analyzed them, and in the majority of cases they were not repeated. The shift masters began to place stamps that included their names on the certificate for each television set. The designers improved the electric circuit and suggested a new artistic external appearance --a varnished front panel made of wood. The plastic panels of other television sets were to "pale" before this.

But the prestige of the Slavutich and the demand for it continued to decline. The enterprise and the trade organizations sustained ever increasing losses. The wholesale purchasers had to write numerous letters and suggest privileged conditions for delivery. The reliable and repeatedly checked figures about the technical and aesthetic qualities of the Slavutich television sets were counteracted by the force of prejudice. We were faced with a choice: to wait until the negative attitude toward the plant's products decreased or to try to overcome it with a mass advertising campaign.

Having exhaustive and, on the whole, optimistic information about the quality of our products, the plant management decided to take the second path. It immediately became necessary to systematically prepare materials for advertising, to consult with wholesale consumers, and to make additional expenditures. And the plant did this.

Plant representatives were sent to the nearest stores and trade organizations. They asked them many questions, but they were all of the same kind: "Why is your television set listed last in advertisements and not in alphabetical order?" "Why do they so persistently advertise the Slavutich?" "Is it worse than the others?" It turned out that both the customers and the salesmen were already under the influence of random advertising. Some people "in the know" warned others about this brand of television set and advised them not to buy it.

It was most difficult in Moscow where the stores offered products of almost all the television plants of the country. This required not ordinary advertising, but delicate advertising which did not violate the customary evaluations, but augmented them. It was necessary to turn to experienced specialists. The slogan of "Buy!" in all of the advertisements was replaced with a benevolent suggestion to pay attention to the new product.

But the plant workers were clearly not capable of simultaneously assembling and adjusting the television sets, studying the peculiarities of the demand in various regions of the country, advertising and consulting with advertising specialists. The workers of the production shop now took frequent business trips in order to promote the product among the consumers, but the supplies of it in the warehouses of the enterprise and trade organizations did not decrease very much. It became obvious that it was necessary to change from the method of "first aid" to planned advertising work. The more so since the enterprise had already formed a group of people who were involved mainly in advertising. This group first investigated the regions with unstable demand, explained the reasons for this, and increased their activity in these regions.

Advertising became more economical, expedient and efficient as compared to when they first began to engage in it. By placing our advertisement in newspapers and on billboards at health resorts of the Crimea, the Caucasus and the Baltic area, we reached more of the population. And we tried to make sure that our advertising did not cover the same areas as the advertising of other makes of television sets did. The level of demand gradually began to stabilize and there was a certain change in the consumers' attitudes toward the plant's products. This gave the plant collective confidence, but they did not achieve the desired results without difficulties.

It is necessary to send preliminary information to the interrepublic wholesale trade fairs which take place in May of each year since the enterprise usually displays a new model of television set at the fair. But the printing enterprises accept this information no less than 8-12 months before then, that is, when the new model of television set is still in the blueprint stage. Therefore the publication and distribution of printed advertising are done in a hurry and it is rarely possible to distribute the advertising before the trade fair.

Up to this point it was not established which division should include the advertising services at the enterprises. Most frequently they were under the jurisdiction of the sales division. But advertising workers also have to make suggestions about arranging the output of the new items, improving the forms of service for the consumers, and improving cooperation with trade and repair organizations. Many of their proposals are not utilized because they are regarded as nonproduction proposals. The bureau for industrial advertising operates more efficiently when it is under the direct jurisdiction of the head engineer or deputy director responsible for producing particular items. This makes it possible for the bureau's workers to constantly keep up with measures for technical improvement of the products and improvement of service.

The work is made more difficult by the lack of the appropriate positions on the staffs of the enterprises. So far there are no journalists or editors in the advertising services. Various specialists are temporarily enlisted to conduct industrial trade exhibits. This is not very effective. It would be better if just one person handled this--the advertising organizer. If the staff were to include new positions there would be job opportunities for specialists which would be filled in the same way that positions for graduates from technical or economic VUZ's are filled.

We need a standard structural composition for the new service which is correctly developed and economically substantiated. And the tasks related to publicity and sales of the items, including export deliveries, would be carried out with reduced expenditures.

Many enterprises do not have material and technical means for advertising activity. Managers of enterprises sometimes do not even think about this because they think that the certificate for the item is quite adequate. Yet the amount of information the population receives about goods in mass demand is small. Trade does not receive from the suppliers that minimum which could be provided by two people--an artist and an advertising editor, if they were on the staff of the enterprise. This conclusion is drawn on the basis of a decade of experience in organizing advertising in our association.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

WEST'S APPROACH TO ADVERTISING EXAMINED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 61-70

[Article by D. V. Chernykh, Institute of Economics and Organization of Industrial Production of the Siberian Branch of the USSR Academy of Sciences (Novosibirsk): "Implements of Non-Price Competition"]

[Text] The greatest art of our profession is to beat any idea into a person's head in such a way that he himself does not notice it . . .

In the modern world people's demands are growing constantly, but not of their own accord. Advertising contributes to their development. In capitalist countries advertisers openly take advantage of this, pumping additional money out of the consumers for their own purposes.

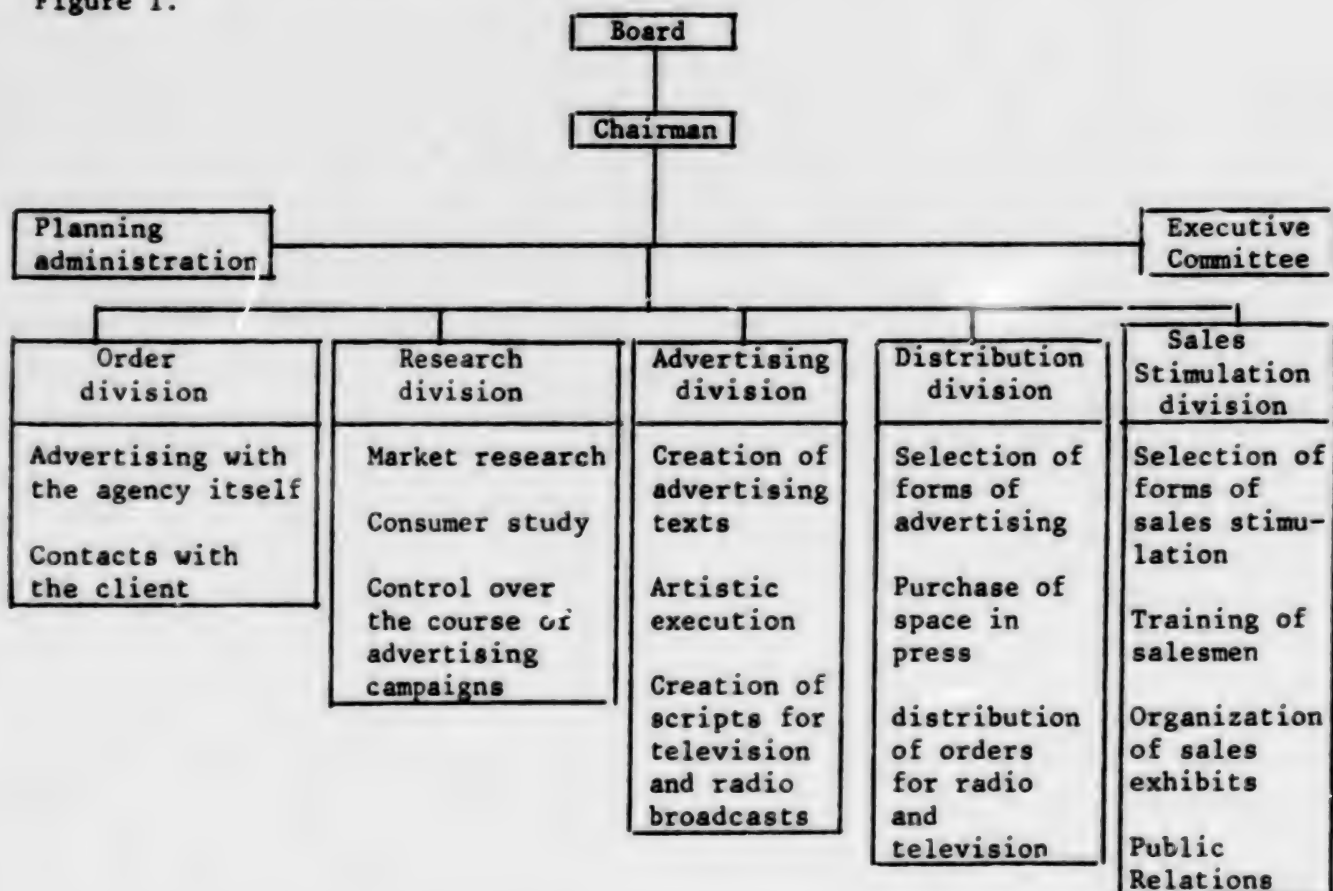
Advertising originated along with the press. In the first quarter of the 17th century in London the first intermediary advertising bureau appeared--the forefather of modern agencies, and the first weekly commercial newspaper, MERCURY, also appeared. Since that time advertising has assimilated and taken over more and more means of communication (without ignoring the traditional ones) and, as we can see now, has filled the Western world. Advertising unabashedly interrupts popular television programs and movies, and fills newspapers, magazines and radio programs. The fact that the "supply" of advertising clearly exceeds the "demand" for it on the part of the consumers is one of the generally accepted causes of stress. Incidentally, we usually see only the "tip" of the iceberg.

How the Advertisers Spend Their Money

Advertising today is a large business. The expenditures on it are immense. They are covered, of course, by the consumers who are drawn in by this advertising. The advertisers make the majority of these expenditures themselves--both large corporations which have advertising divisions and small firms which cannot afford to pay for the services of specialists. Advertising agencies help the rest of them to spend their money. In the United States alone the circulation of this money amounts to \$33 billion a year. The staffs of the majority of agencies include two-three people (they are usually the owners

as well); hundreds of specialists work in large companies (see diagram). But both kinds of advertisers are skilled in handling their job: they determine the categories of potential consumers, create an "image" of the commodity, develop a plan for the campaigns and the advertisements themselves and, finally, realize this plan with the help of mass media.

Figure 1.



If one considers that the ratio of expenditures on various forms of advertising corresponds approximately to the advertisers' ideas about their relative effectiveness, the least effective turns out to be street and highway advertising--that kind which primarily meets the eyes of the tourists. Less than 1 percent of all expenditures go for this. Street advertising brazenly and openly hammers the firm's trademark into the head of the consumer, and therefore is usually lavished on goods which can be distinguished from one another only by the firm's trademarks (cigarettes, drinks, canned goods and so forth). This is comparable in effectiveness to home and telephone advertising--which is used mainly in the sphere of services.

In terms of increased expenditures and effectiveness the next most important are advertising on the radio, in the mail and on television. This pattern has been established in the United States. There is a somewhat different ratio in Western Europe. The advantages of television advertising are obvious, but it has one essential shortcoming: since everyone watches television the advertising should be intended for all categories of consumers, and this reduces its influence on each of them individually.

On the other hand, advertising brochures that are sent in the mail are addressed in the literal sense of the word. As we know, various social segments of the population are concentrated in various regions and even micro-regions of cities and suburban zones. By knowing their distribution it is possible to address the brochures to the potential consumers fairly accurately. And it is quite simple to address brochures that are intended for organizations. But this is not the only thing that explains the effectiveness of postal advertising.

A brochure is in a certain sense the antithesis of street advertising. It contains more than a detailed description of the advantages and capabilities of the product. The very style of presentation reflects confidence in the consumer as a person who is capable of understanding the arguments and making a rational decision. This is achieved by proposing several variants of the product and several functionally or aesthetically different spheres of its application. For example, a consumer is allowed to choose from several kinds of ceiling lights and possible ways of placing and hanging each of them. The brochures of commodities for industrial purposes are intended for specialists and are arranged on the same principle as addressed brochures, but are distinguished by much greater possibilities of selection.

The brochure of one Canadian firm devoted to infrared heaters contains seven kinds of items with three types of heating elements. Each type has several kinds that are different in terms of capacity and size. The brochure advertises a total of 56 heaters and 42 spheres for their application. In such a case the specialist not only has the opportunity to make a well-founded choice, but he also receives a much broader idea about the commodity.

The next position on the scale of expenditures and effectiveness is advertising in the press. The commercial press cannot make ends meet without advertising (American newspapers cover 75 percent of their expenditures this way), and therefore the very existence of one newspaper or magazine or another, except for specialized ones, is determined by the interests of the advertisers and not the readers. Thus it is advantageous for advertisers when each city or district has only one local newspaper, and, as we know, there is a tendency toward this. On the other hand, advertisers contribute to the flourishing of a multitude of popular and entertaining magazines, each of which is intended for a small category of readers with typical tastes, values, demands and so forth. These differences are important for advertising; they can be addressed more precisely. And since the number of periodicals exceeds many times the number of radio and television programs, the total expenditures on advertising in the press are considerably more than those for television and radio advertising (in the United States--1.5-fold, and in the FRG--more than 6-fold), despite the incredible cost of television time. The effectiveness of press advertising is explained not only by the defined audience, but also by the fact that it does not determine a particular rate of perception and makes it possible in a dense text to develop more detailed material. Moreover, advertising in the press has a greater chance of being noticed than in brochures that are sent in the mail (many of them are discarded without being read), since it is located among articles and commentaries for which the newspapers and magazines have been purchased.

Finally, the absolute leader both in terms of expenditures and in terms of effectiveness in many countries of Europe is personal advertising which is conducted by the "salesmen"--modern descendants of the commercial travelers. The salesmen are not simply sellers. They know everything about the product and a great deal about the psychology of the consumers. Therefore expenditures on wages of salesmen alone exceed 1.5-fold the expenditures on all other kinds of advertising taken together.

Salesmen have direct contact with the consumers (frequently in the home) and if they are successful they immediately complete the sale (frequently on credit), and organize delivery, installation, adjustment and so forth. The effectiveness of personal advertising is high because the salesmen can adapt to the system of values and the psychology of each specific consumer. But only large corporations can allow themselves salesmen.

Advertising As A Science

Today the success of advertising depends primarily on the degree of study of the products and the consumers.

The majority of modern products are combined into sets and can satisfy the demand only when they are used together. An intelligent producer does not put a new product on the market without providing a set of goods necessary for its consumption. Thus a household dishwasher was developed in the United States precisely to provide a means for using a new detergent, which turned out to be very effective for washing dishes. Any advertising must take into account the system in which the product is consumed.

Commodities are divided into three groups depending on the consumer's attitude toward the buying process: "convenience" (for convenience, trivial), "specialty" (special, my favorites) and "shopping" (which includes large purchases). The first two include inexpensive goods for private use: food, medications, linen, household chemicals and so forth. The differences among them lie in the degree to which the consumer is accustomed to one brand or another. If, for example, "Pepsi Cola" is a "specialty" for the consumer, he is prepared to go to several stores to find it and will not buy another drink. The advertising of these goods is directed toward transferring them from the first group to the second group by developing conditioned responses to the brand.

The "shopping" group includes goods whose purchase is an event: costly clothing, durable goods and so forth. The purchase is planned ahead of time and the selection of the brand takes days or weeks. The advertising of these goods should give the consumer a convincing motivation which is rational and evaluative so that he can explain to those around him why he selected this brand.

Perhaps the most important thing is to know the peculiarities of the people to whom the advertising is addressed. For this one uses a multitude of various classifications of society: high, middle and lower social classes, which, in turn, are divided into various numbers of rank segments. They know the composition of each of these segments, their proportion in the society (evaluation of the potential market), where their representatives live, which magazines,

newspapers and television programs they prefer (hence the selection of the forms of advertising), their incomes, the degree to which their tastes and requirements are developed and independent, their way of life, their problems, and their system of values.

Thus specialists have established that various segments of the upper class are not models for one another or even for the middle class: they are independent and conservative in their tastes and habits, they are well organized and oriented primarily toward the functional quality of the goods. Conversely, in the middle class, which comprises the majority of the society, each higher segment is a model for the next lower one and therefore any fashion begins primarily with the upper segment of the middle class.

And, finally, it is necessary to know how the consumer perceives the advertisements themselves. A great deal is also known about this--from the psychophysiological perception itself to the realities of mass consciousness. Thus it is known that movie and television advertising is significantly less capable of holding attention than press advertising is; that television advertising should not continue for more than three minutes; they know the point at which they begin to be aware of the advertisement, which combinations of colors and scripts are more suitable than others, and so forth. On the other hand, they empirically construct broad associative fields of words (primarily epithets) which are associated in the mass consciousness with positive or negative phenomena.

A considerable number of Western sociologists and psychologists are constantly engaged in scientific support for advertising. Because of this the advertisers are capable of substantiating their decisions with more than just references to intuition.

The Logic of Advertising

The boundless diversity of advertisements is still subject to certain patterns. Of course the main thing is to account precisely for the recipients. Advertisements intended for various segments of society are differentiated not only by publications in which they appear, but also by the language and the system of reasoning. But any advertisement should, in the first place, attract the attention of the consumer, in the second place, interest him to the point that he reads it to the end, and, in the third place, convince him.

The "eye stopper" is a compositional element that is to fulfill the first function. A good eye stopper is related if only associatively to the contents of the advertisement. The second function is fulfilled by "appeal"--the headline of the advertisement which is placed in such a way that after the eye stopper the gaze involuntarily falls on it. Frequently the graphics of the appeal also fulfill the role of eye stoppers. For example, the appeal "Have you ever thought what several years of working in an incorrectly lighted office can do for you?" is presented in the form of an optometrist's table for checking vision.

The logic of the advertisement itself requires that the consumer be convinced that a) he is in a problem situation; and b) the acquisition of the new product will solve the problem. Depending on the seriousness of the problem and the

degree to which the consumer is aware of it, the center of the reasoning is shifted either to the problem itself or to the product, but both of these components are present in any advertisement. Thus the advertisement of a gift set of pens at first glance is simply a group of laudatory epithets, but it is precisely calculated for the consumer who wishes to increase his prestige in the eyes of those around him.

Let us consider one advertisement in greater detail:

"An improved memory in your pocket 'pocket memo special-95' is small and rich in ideas."

This is a flat and light dictaphone--the small kind which slips into the pocket of a shirt and is not easily noticed there. It records every word clearly under any conditions.

Keep up with the times in taking notes. They can be dictated more rapidly than they can be written. You can make a 30-minute recording on one Phillips mini-cassette. The sound is improved because of a special built-in microphone and loudspeaker. The super miniature components in combination with the high-quality light-weight materials provide for reliable operation and elegant appearance.

In order to type your remarks or oral instructions give your secretary a unique set of Phillips dictaphone equipment which is completely compatible with mini-cassettes."

Managers do not need to be convinced of the necessity of being modern and saving time--these are fundamental values. It is sufficient to remind them. And they have long been convinced from experience that a dictaphone is better than a stenographer. But it is precisely because a dictaphone is an implement of labor for the manager that it is necessary to demonstrate the operational suitability of this innovation from the Phillips firm. Therefore the eye stopper is the photograph of the dictaphone in the hand, demonstrating how small it is, and the entire text is devoted to explaining how this small size has been achieved and why it does not detract from the actual operating characteristics. The dictaphone's consumer system is not forgotten. The language of the advertisement uses the vocabulary of popular scientific articles: for the educated consumer it is usually associated with ideas of scientific and technical progress.

The advertising of the dictaphone also reveals a basic method of placing the consumer in a problem situation: the appeal to value. Advertising exploits any values that exist in modern civilization: quality, health, security, convenience, satisfaction, aesthetics, attractiveness, progressiveness and economy. A special role is played by demonstration values that pertain to the sphere of social psychology: status (demonstration of belonging to a particular segment), prestige (demonstration of superiority over others) and fashion. As distinct from others, these values have the property of unique self-realization, which makes them especially convenient for advertising: it is sufficient to convince the consumer that these products are status products which are prestigious and fashionable--and they actually become this.

This property of self-realization of values of status, prestige and fashion is extensively exploited by capitalist advertising. Critically thinking investigators in the West note that this advertising on a mass scale tries to deceive people, brings an alien will to the threshold of their consciousness and causes distorted emotions. A classical example of prestige advertising is the appeal to fame. Trying to be like their favorite movie stars, for example, people purchase advertising goods without suspecting that the real way of life of the celebrity has nothing in common with his image. Thus the briefcase of the "diplomat" type appeared after the infamous James Bond used it in one of his hits.

The particular values appealed to for forming the demand for a given commodity depend primarily on the system of values of the addressee since this is also the object of constant research. In the hierarchical system of values of potential consumers they try, of course, to select the most significant, but those in whose light the product will have real advantages over others. This complex of properties of a product that are "suitable for advertising" in combination with values also form its image--the image created by advertising. The introduction of the image into the awareness of the consumer is no longer a task of individual information, but of the advertising campaign as a whole.

The Structure of the Advertising Campaign

The logic of the advertising campaign is now perceived within the framework of the marketing competition which, as we know, is subordinate to the interests of production sales and even the development of commodities. Marketing presupposes that the "sales" characteristics of the commodity--its image, price, production dynamics, method of sale, potential consumers and limits of expenditures--are outlined even before it is developed. Thus the image serves as an assignment not only for the advertisers, but also for the planners of the commodity and the advertising campaign is developed and carried out simultaneously with the development and production of the item.

The modern advertising campaign includes a number of successive stages that are related to the utilization of various mass media and are strictly intercoordinated in time and are also coordinated with the dynamics of the production of the product. In the first stage they try only to inform the consumer about the appearance of a new product, for which they use ordinary television and radio broadcasting and, less frequently, movie, newspaper and street advertising. The second stage has the goal of interesting the consumer and arousing a desire to obtain more detailed information about the product. The main role here is played by magazine and newspaper advertising. Almost all magazine and many newspaper advertisements have coupons with the address of the firm and a text of the following type: "Please send me more information about" If the consumer indicates his address on the coupon and sends it to the firm, he receives an advertising brochure in the mail; the goal of the second stage has already been achieved.

The second stage is directly connected to the third, whose goal is finally to convince the consumer and to overcome the reaction "it is good, but I do not need it." Brochures sent not only upon request, salesmen (if the limit of expenditures allows this) and also sales exhibits and other forms of stimulating sales are utilized extensively. The third stage coincides with the beginning of

the appearance of the product on the market, but the advertising of the second and even the first stage are not usually stopped immediately; they just become less intensive. The campaign continues until all three of the stages reach the entire potential market. Moreover, for goods in daily demand the reminder advertising, which is similar to advertising of the first stage, is retained throughout the entire period of production.

The course of an advertising campaign is constantly supervised. In addition to coupons in advertisements, to do this they use questionnaires of public opinion, reports from salesmen, data concerning the attendance at movie theaters, and so forth. In order to study the popularity of television programs, large television studios use automatic response meters that are installed in some of the television sets--they tell them which program is being seen at a given moment. These data can also be used to supervise the course of the advertising campaign. If the effects of the campaign on the consumers is less than expected, it is possible to change the advertisement or the publication in which it is placed, or the frequency of the repetitions of the advertising, and so forth. These possibilities are envisioned beforehand in the plan and therefore their realization causes no difficulties.

Capitalist advertising is the main implement in nonprice competition. We are aware of V. I. Lenin's evaluation of capitalist advertising: "Look at the commercial announcements in any newspaper and you will see that the capitalists think up the most 'effective,' loud and fashionable names for their goods and praise them, abashed at absolutely nothing, decisively carrying on in the face of any lie or falsification."*

But advertising is necessary not only for capitalists, but for large machine production in general, and especially under the conditions of scientific and technical progress. The medieval craftsman did not clarify the needs of his consumers--he produced traditional models or filled orders. Modern production, on the contrary, updates the assortment, being confident in the lack of a mass need for his innovation--for this need could not have existed before the appearance of the innovation itself! It is precisely updating the assortment which is brought about by scientific and technical progress and not by orders from individual consumers that makes it necessary to advertise.

*Lenin, V. I. "Poln. sobr. soch." [Collected Works], Vol 21, p 275.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

PRODUCT LINES, CAPITAL INVESTMENT, POOR MANAGEMENT, LABOR SHORTAGES AT
NIZHNY TAGIL METALLURGICAL COMPLEX

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian
No 11, Nov 82 (signed to press 27 Sep 82) pp 75-89

[Article by G. N. Vasilenko, deputy director for economic problems of the
Nizhny Tagil Metallurgical Combine, and V. N. Florov, candidate of economic
sciences, Institute of Mathematics and Mechanics of the Ural Scientific Center
of the USSR Academy of Sciences (Sverdlovsk): "Why is it Difficult for the
Combine?"]

[Text] In ferrous metallurgy it has become customary to organize multibranch
production associations--metallurgical combines that rely on the natural connec-
tion among enterprises that operate in a unified technological process.

What Has the Creation of the Combine Produced?

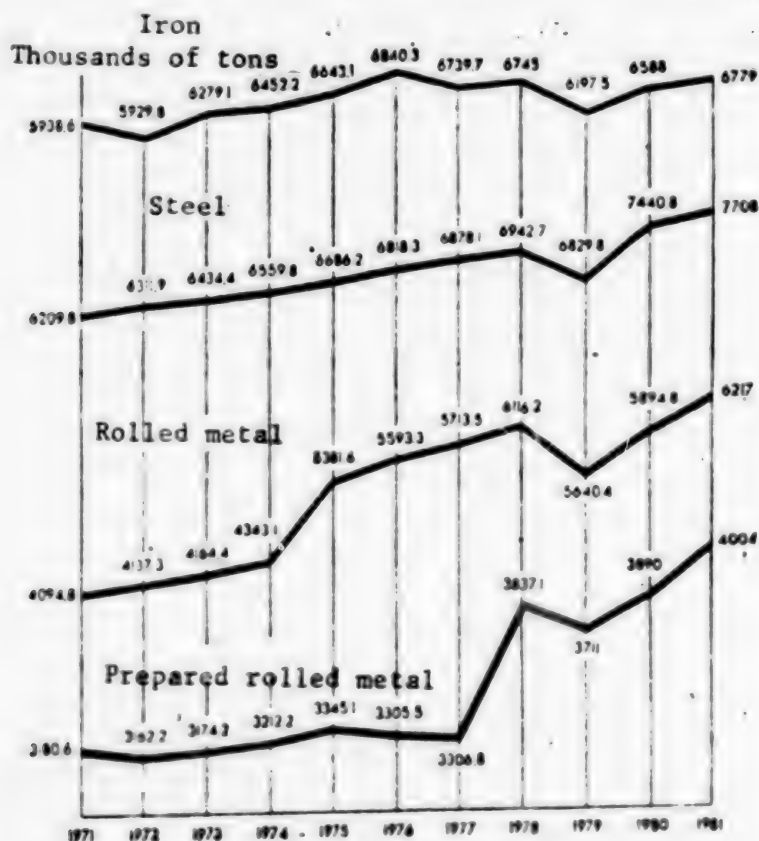
The Nizhny Tagil Metallurgical Combine (NTMK) was formed on the basis of the
Novotagil metallurgical plant which was joined together with three mining
administrations (Vysokogorsk, Lebyazhinskiy and Goroblagodatskiy) and three
plants (the metallurgical plant imeni V. V. Kuybyshev, the coke-chemical plant
and the refractory plant). Before all these were joined together they were
under the jurisdiction of five different main administrations of the USSR
Ministry of Ferrous Metallurgy and were separated organizationally and admin-
istratively. The planning programs for mining, coke-chemical and refractory
production were not coordinated with the needs for the development of metallurgy.
Questions related to qualitative characteristics of the products that were
produced were not resolved.

The production capacities in Nizhny Tagil were used inefficiently because of
the lack of balance in the output of iron ore, coke, refractories and iron.
The inadequate production volume and the poor quality of the pelletized iron
ore impeded the increase in the volumes of smelting iron while the development
of coke-chemical production significantly outstripped the demand of the blast
furnaces, but only in terms of quantity. The poor quality of the coke was
compensated for when smelting iron by increased norms for its expenditure. The
slow increase in the volumes of iron smelting impeded the increase in the produc-
tion of steel and rolled metal.

The organization of the combine was under a unified schedule and the work of all industries, beginning with the extraction of ore and ending with the production of rolled metal and metalware, was included in a single technological process. Prerequisites appeared for proportional development of the entire metallurgical complex. With the creation of the NTMK it became possible to concentrate capital investments and to utilize them more efficiently. The implementation of measures for essential improvement of the quality of pelletized iron ore for blast furnaces doubled the production volume and simultaneously increased the iron content by four percent.

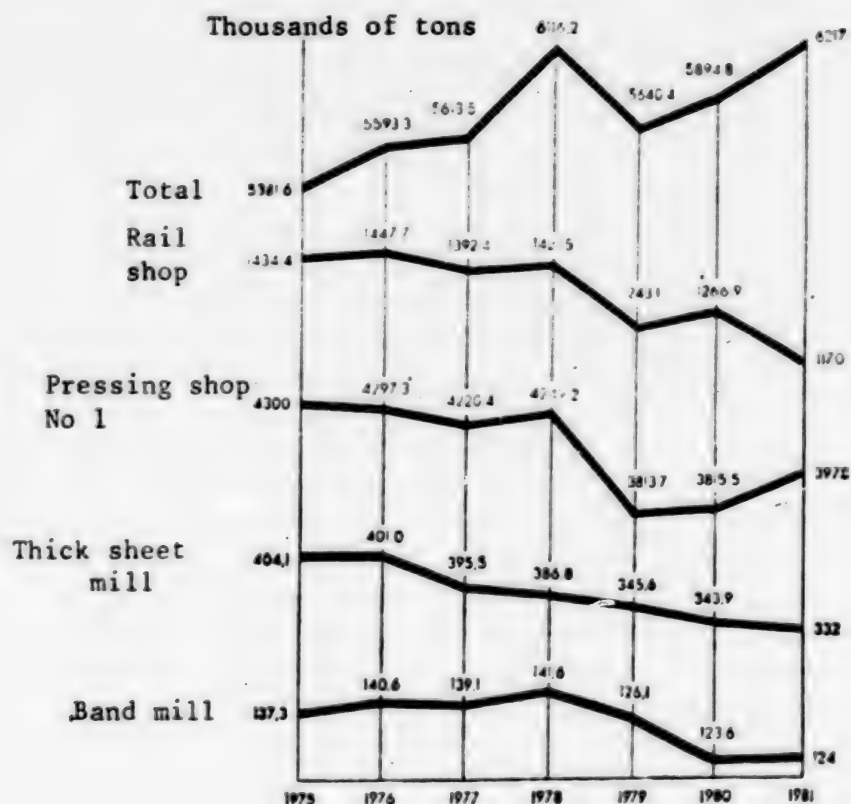
A complex of measures was developed at the NTMK, which provided not only for retaining the qualitative characteristics of the coke (with a deterioration of the quality of the coals that were to be used for coking and aging of the coking batteries), but also provided for their improvement. A method of differentiated crushing of coals was introduced and an installation was constructed for pneumatic separation of the coal berdens. The replacement of the chamotte lining in the air heaters of the blast furnaces with high bauxite brick in the zones with increased temperatures made it possible to raise the temperature of the blasting to 280 degrees Centigrade. The measures that were taken improved the technical and economic indicators of blast smelting and the expenditure of the iron ore berden for smelting one ton of iron decreased by 50 kilograms and the expenditure of coke--by 200 kilograms. The efficiency factor of the volume of blast furnaces was improved by 15-16 percent and the content of sulphur in the converted iron decreased from 0.040 to 0.026 percent. The high rates of increase in the smelting of iron in existing blast furnaces helped to construct new blast furnaces with a useful capacity of 1,519 and 2,700 cubic meters and to accelerate the development of steel smelting and rolling.

Table. Production of Main Kinds of Products at NTMK



The construction and introduction of modern new metallurgical aggregates and highly productive rolling mills made it possible to close down the obsolete and worn-out Martin furnace No 3 and the sheet rolling plant imeni V. V. Kuybyshev where labor productivity was the lowest and the labor the heaviest and least attractive. It is planned to curtail the operation of the shop that produces cold rolled sheet metal. At the same time production capacities are being introduced for producing consumer goods. These are staffed with personnel from the shops that have been closed.

Table. Production of Rolled Metal at NTMK



The creation of the combine eliminated structural subdivisions that duplicate one another: the administration of the metallurgical plant imeni V. V. Kuybyshev and the Lebyazhinskiy mine were released, and the coke-chemical and refractory plants were reorganized into industries with the minimum necessary operating staff of administrative personnel. Repair and energy facilities were centralized. As a result the number of subdivisions engaged in administration decreased by one-third. Unified management of transportation improved the organization of the shipment of raw material, increased the effectiveness of the operation of railroad stations, improved the utilization of rolling stock, eliminated excess shipments and loading and unloading operations, and centralized the repair of locomotives and railroad cars. Interrelations with the Gosbank

were simplified: the number of accounts was reduced from seven to one; document turnover was reduced when they eliminated accounting documents for ore, coke and refractories; the number of contracts for the delivery of raw and processed materials and the performance of services was reduced; the processing of pay documents was centralized, and so forth.

During the 8th and 9th Five-Year Plans the combine's development proceeded at rapid rates. The startup of a blast furnace with a useful volume of 2,700 cubic meters became the basis for the construction of the combine's second section. After the blast furnace production, they increased the capacities of the oxygen converter shop, which during the years of the 10th Five-Year Plan was reconstructed with an approximately two-fold increase in the planned capacity for producing steel. The Blooming 1500, the largest in the country, and the universal girder mill, which produces bethlehem beams and column profiles, the first in the USSR, were put into operation. A number of facilities at mining enterprises were reconstructed, as a result of which the capacities for producing wet magnetic concentrate were increased and the iron content increased. New capacities were introduced for manufacturing chrome magnesium refractory items, and so forth.

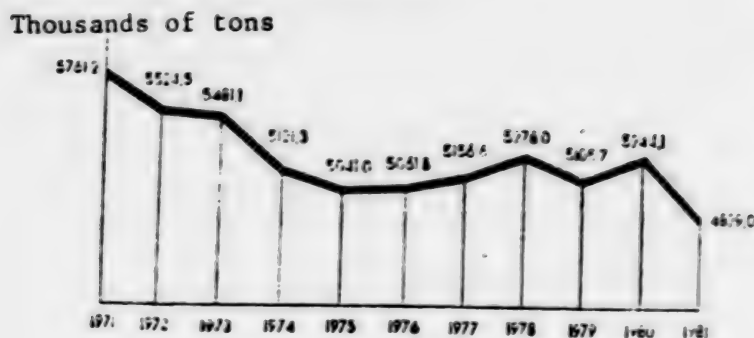
Under the 9th Five-Year Plan as compared to the 8th the production of iron increased by 18.4 percent, steel--by 9.6 percent, and rolled metal--by 33.6 percent. In 1975 the overall volume of output of products increased by 24.3 percent as compared to 1970, with a six-percent reduction in the number of industrial production personnel. Labor productivity increased by 31.9 percent. All this is convincing evidence of the increased efficiency of the operation of the combine during the years of the 9th Five-Year Plan.

But during 1976-1980 the rates of growth of the overall volume of output of products and individual kinds of products and also labor productivity at the combine decreased. During the years of the 10th Five-Year Plan the growth volume of output increased by only 3.1 percent, and labor productivity by 0.2 percent. The volume of balance profit decreased. Naturally, the question arises: Why did this happen?

Causes for Reduction of Rates

The lack of balance of capacities. The combine annually ships in through intrabranh cooperation about 3.5 million tons of iron ore for agglomeration (2.2 million tons from KMA and 1.3 million tons from the Severopeschanskoye deposit). The production of coke, as a result of the natural aging of the coke batteries (batteries No 1 and No 2 have been in operation without expansion since 1940), decreased and now we have a shortage of 400,000-600,000 tons of coke. The capacities of the Blooming mills annually failed to meet our own needs for steel by 700,000-800,000 tons. At the same time there is a surplus of commercial billets for subsequent rolling amounting to 2.3 million tons. The lack of balance of the capacities of the basic production leads to inefficient shipments of the intermediate product, increased transportation expenditures and technological expenditures on the output of the final product, increased production losses from irregular deliveries of purchased products, and freezing of funds, forces and capital.

Table. Production of Commercial Ore at NTMK



There is also a sharply expressed disproportion in the development of basic and auxiliary productions. The condition of the repair base and transportation is especially unsatisfactory. While the capacities of the basic production have increased by 60 percent during the past 12 years, auxiliary productions have remained at practically the same level.

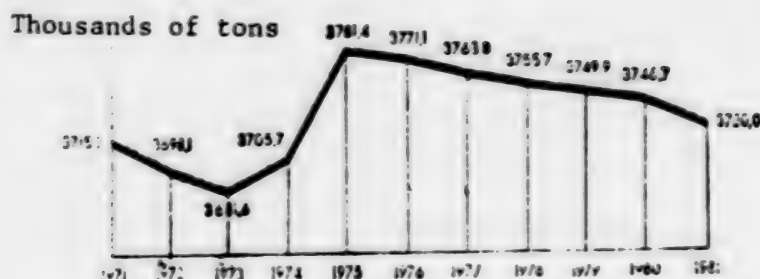
The new block of repair shops that was to be introduced in 1969 in the complex of blast furnace No 6 have not yet been introduced. The weak repair base does not provide for the full volume of capital and current repairs, and this leads to increased idle time and premature breakdown of aggregates and equipment and, as a result, to reduced output of products. There is a critical shortage of spare parts and replacement equipment. Spare parts are manufactured, as a rule, either during the period of repair or when the equipment has broken down.

The greatest bottleneck in the repair service is the mechanics shop. The shortage of its items amounts to about 20,000 tons a year, with a natural production of 14,000. Special difficulties arose with the startup of the universal column mill, when it was necessary to have wire equipment, saws and other items for the assimilation of new profiles of rolled metal.

Not all of the electrical equipment can be repaired. The electrical equipment repair shop, which is intended for 1,300 electric engines a year, repairs 4,800-5,000. But even this is clearly inadequate. Large-capacity electric engines, and the fleet of them increased 5-fold as compared to 1975, are not repaired at all. The construction of a new shop which was to be part of the complex of the shop for rolling Bethlehem beams has not yet been started.

Many complicated problems also arise in the operation of transportation. The fleet of dump cars and sinter cars, as of 1 January 1981, was fully amortized, and the fleet of pellet cars was amortized by 65 percent. But their replacement is proceeding extremely slowly because of the inadequate quantity of funds. The transportation scheme for moving cargoes requires further development. Problems of reconstructing the Vostochnaya, Zapadnaya and Prokatnaya railroad stations are being solved slowly.

Table. Production of Coke at NTMK



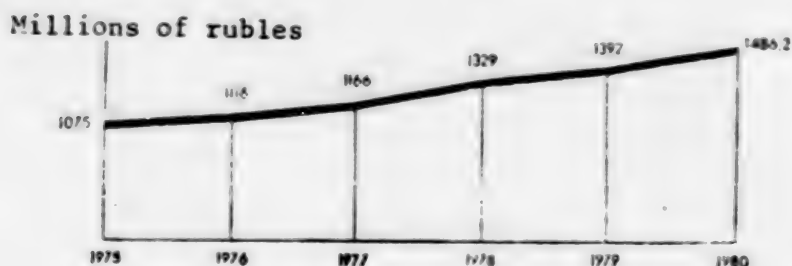
In a number of cases the combine's difficulties are determined by the fact that the startup of certain production capacities is not accompanied by providing products from related facilities of other enterprises of the branch. Thus in 1978-1979 the combine reconstructed a converter shop with the replacement of old converters with large-cargo ones and the installation of a fourth converter. The shop's capacity increased by 1.5 million tons of steel a year and reached 3 million tons. In order to produce 3 million tons of oxygen converter steel it is necessary to smelt 3.2-3.3 million tons of iron that contains vanadium, which requires about 5.6-5.7 million tons of iron ore pellets. But the Kachkanarskiy mining and enriching combine can now give our combine only 4.8 million tons of this kind of raw material. Because of this the capacities of the converter shop are not fully utilized. Moreover the shop is not provided with lime either. Each year the losses of production of steel because of the shortage of iron ore raw material from the Kachkanarskiy mining and enriching combine amount to 250,000-300,000 tons, and of metal vanadium in the slag--1,500 tons.

The operation of obsolete and worn-out equipment. A number of the existing shops were put into operation as far back as 1930-1940. These are coke batteries and refractory industries that produce chamotte, tire mills, thick sheet mills, rail mills and so forth. The condition and the composition of this equipment not only do not make it possible to increase the volume of output of products, but even cause a certain reduction of this output. It is not always possible to produce products that meet the requirements of the GOST and TU with obsolete equipment. The competency of personnel of these productions which is reduced by the difficult working conditions also causes difficulties. The economic effectiveness of worn-out equipment is also low.

The inadequate development of the combine's construction base. Possibly the main reason for difficulties in the development of the NTMK is the lack of correspondence between the volumes of capital construction in past years and the plans for increasing the production capacities of basic and auxiliary industries. This impeded the comprehensive introduction of all facilities that had been constructed. The increase in construction and assembly work (SMR) during the 10th Five-Year Plan as compared to the 9th amounted to only 6.7 million rubles, or about 2.5 percent. Moreover, about half of the volume of SMR (approximately 130 million rubles) was assimilated with the construction

of the rolling mill for bethlehem beams and the reconstruction of the converter shop, and 39 million rubles at mining enterprises. For all of the rest of the combine's facilities, including housing production, about 90 million rubles were assimilated, 59 million of which went for objects for nonindustrial purposes. Naturally the remaining funds were inadequate to provide for balanced development of the combine. Therefore the USSR Ministry of Ferrous Metallurgy did not plan for the introduction of any new production capacities for NTMK in 1980 so that it would be possible to increase capital investments and production capacities of construction organizations in order to reduce by a certain amount the disproportions in the development of the combine.

Table. Value of Fixed Industrial Production Capital at NTMK

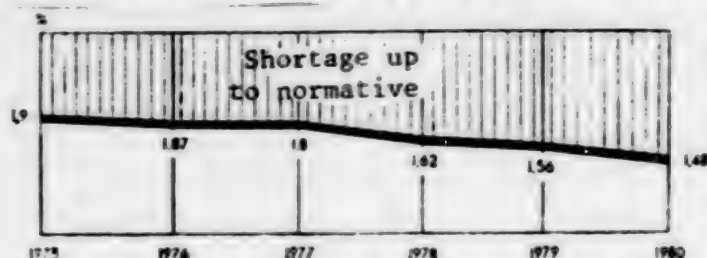


In 1980 it was planned to introduce a receiving and dispatch fleet for the Vostochnaya and Prokatnaya stations, a garage for thawing out coal for coking, a block of repair shops and an installation for removing rocks jutting from seams. But not one of these objects was put into operation in spite of the measures taken by the combine (only about 31 percent of the capital investments for these were assimilated). One of the main reasons for the failure to fulfill the plan for construction and installation work is the transfer of trusts that were performing work for the NTMK to other enterprises of the city and oblast. The situation with respect to the material and technical supply of the combine's facilities that are under construction is unsatisfactory. The Taligstroy trust of the Ministry of Heavy Construction performs work at enterprises of 22 ministries. During the years of the 10th Five-Year Plan the trust reduced the volume of work at the combine as compared to the 9th Five-Year Plan. There was an especially sharp reduction in recent years. While in 1977 50.7 million rubles' worth of construction and installation work was done at facilities of NTMK, in 1980 this figure was 18.3 million rubles, and in 1981--17.2 million rubles. This gave rise to disproportional development of the combine's production and caused difficulties in fulfilling the plans.

The technical and economic substantiation for the development of NTMK for the near future, which was developed by Uralgiprommez in keeping with the basic directions for the branch's development, envisions solving the enterprise's most important problems. But calculations show that in the next 10-15 years it will be necessary to increase the volume of construction and installation work to 1 billion rubles, which is possible only with rapid growth of the

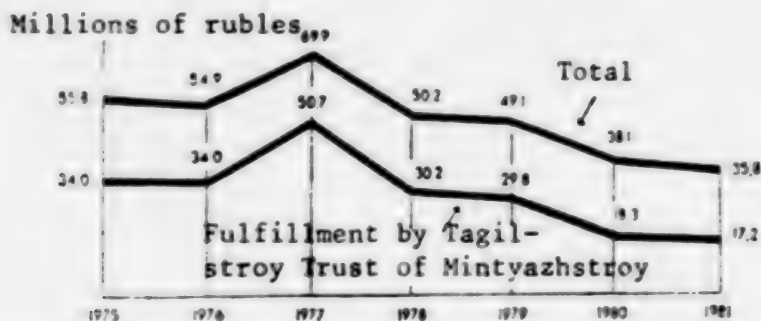
production capacities of construction. Otherwise critical problems of the combine's development will not be solved even within the decade. Since the time has now come to carry out complete technical re-equipment of the largest metallurgical giants such as those in Magnitogorsk, Nizhnyy Tagil and Kuznetsk, the questions of the development of a construction base are critical on the branchwide scale as well.*

Table. Proportion of Fixed Capital of Repair and Mechanics Shops in Value of Fixed Industrial Production Capital at NTMK (Normative - 4-6%)



Imperfect Administration. The NTMK is one of the largest production associations in the branch. Effective functioning of such a large enterprise is impossible without the appropriate organizational structure for production administration, which makes it possible to increase efficiency, flexibility, maneuverability and economic expediency of decisions that are adopted.

Table. Construction and Installation Work at NTMK



There are now 16 structural teams under the direct jurisdiction of the combine's director and 14 under the head engineer. In both cases these are twice the recommended norms. The shops of the steel smelting and rolled metal groups are under the jurisdiction of the head steel smelter and head rolling mill operator, each individually. The structural administration of these industries should be

*On problems of the Kuznetsk metallurgical combine see, for example, I. Ognev, "The Fate of a Veteran," EKO, No 2, 1978, pp 101-127.

closer to the mining, coke-chemical and refractory subdivisions of NTMK. It is necessary to improve the existing system of administration of rail and automotive transportation and material and technical supply, with centralization of their functions in a single staff of the combine.

One should also recognize the inefficiency of the "maximalist" orientation of the plans for the operation of the combine toward the greatest possible production of products in physical terms. Such a plan, as a rule, is either barely possible or even impossible. The stimulating role of evaluation indicators is practically reduced to zero since the enterprise does not have the opportunity to select from a number of permissible planning programs. Moreover, the purely quantitative requirement for the maximum possible output of products in physical terms is frequently not economically justified since in the majority of cases it is advantageous for the national economy to produce labor-intensive products with high-quality characteristics. Although it leads to a certain reduction in the production of metal products in tons, it also reduces the metal-intensiveness of the machines, mechanisms and so forth, increases the effectiveness of their operation and reduces repair costs and the amounts of idle time.

Intensification of production requires constant innovations, rapid introduction of new scientific developments and a change in the structure and assortment of products that are produced. In order to increase the mobility of production and its ability to realize the achievements of scientific and technical progress, the enterprise must have certain reserves of resources. And, finally, the lack of freedom of choice in planning decisions at the level of the enterprise impedes the development of economic initiative.

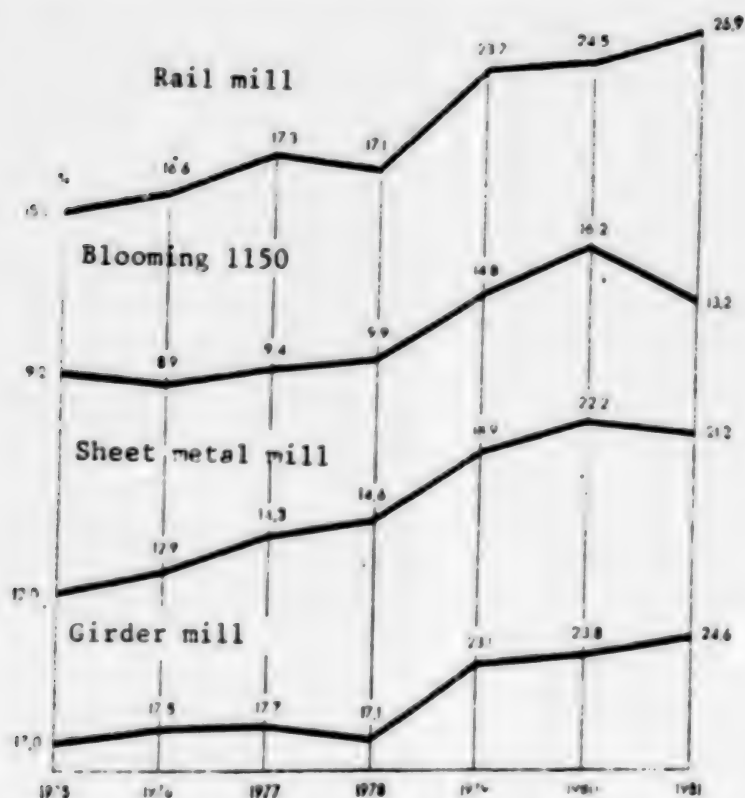
Shortage of labor resources. During the past 15 years the overall volume of production of products at plants of the combine increased by 60 percent, and the number of industrial production personnel decreased by 3,062. Thus the entire increase in the output of products was achieved through increased labor productivity. The personnel problem is very critical. The shortage of labor force amounts to about 2,000 people. Some of the workers, especially young ones, leave the combine for enterprises of other branches of industry where production conditions are better, there is only one work shift and the work is easier. Even with a great shortage of repair personnel, workers are transferred from repair services to basic production.

Since 1968 the combine has been developing plans for social development which are directed toward reducing labor turnover and improving working conditions. The main direction of these plans was to solve social and domestic problems and to implement measures having to do with health and therapy.

Under the 9th Five-Year Plan a plant polyclinic with mud bath treatments was put into operation and in 1976 a preventive medicine sanatorium to accommodate 400 was constructed (with facilities for physical therapy, paraffin treatment, procedural treatment, dentistry, therapeutic physical culture and hydrotherapy) with the latest equipment. The dispensary is located on the shore of the water reservoir which was constructed to supply water for the combine's new production capacities. A health shop was created, which works to prevent diseases. The last barracks of the combine's housing supply were eliminated in 1978. The NTMK

is the head organization for construction on a shared basis of the second section of the Metallurg sanatorium in Sochi. Under the 10th Five-Year Plan a basis was laid for the development of a subsidiary farm. During 1976-1980 412 women were released from heavy physical labor, 333 women were released from work during the night, and working conditions were improved for 4,538 workers. During the 11th Five-Year Plan it is intended to construct a new year-around pioneer camp to accommodate 720. In order to improve services for the workers, it is planned to increase the number of streetcar routes in the city and the number of cars on the line.

Table. Current Idle Time of Rolling Mills at NTMK



But the measures taken at the combine for retaining personnel and attracting workers are not producing the expected effect. The rates of housing construction are inadequate. In recent years at NTMK the number of people requiring improved housing conditions has not decreased.

Let us sum up what has been said. The NTMK is one of the largest and most rapidly developing combines of the branch. The majority of difficulties of the NTMK are fairly general in nature and the solution to such problems is critical for many enterprises in ferrous metallurgy.

Capital investments in housing construction and improving working conditions for metallurgists are extremely necessary. These are possibly the expenditures with the greatest return if when calculating economic effectiveness one takes into account losses related to the efflux of workers.

The problem of more rapid development of the construction base is also a general one for the branch. Its current condition makes it impossible to provide for proportional and efficient development, especially at those enterprises that are more than several decades old. They require not a partial replacement of equipment, but a radical restructuring of the entire production.

From the Editorial Staff

The article about the problems of the Nizhnyy Tagil metallurgical combine is not the first article of this type to appear in EKO. It can serve as another illustration of how unflexible administration sooner or later leads to serious difficulties.

If one tries to find the key cause of the phenomena described in the article by G. N. Vasilenko and V. N. Florov, it seems that it could be formulated as distortions in administration, inadequate attention to long-range problems of development, and the desire to obtain the maximum today without thinking about tomorrow.

It is obvious that the creation of conditions for another style of administration is a general matter rather than one pertaining to individual managers. It would therefore be interesting for the reader to know the opinion of the USSR Ministry of Ferrous Metallurgy regarding the essence of the issues raised in this article.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

VALUE OF OBJECTIVE, WEIGHTED FACTORS IN HUMAN RESOURCE MANAGEMENT

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 90-98

[Article by V. V. Krasil'nikov, candidate of economic sciences, Kama Polytechnical Institute (Naberezhnyye Chelny): "Determination of the Results of Socialist Competition"]

[Text] The decree of the CPSU Central Committee, "On Further Strengthening Ideological and Political-Educational Work," of 26 April 1979 says that it is necessary to take into account not only the indicators of the fulfillment of the plan, but also the level of discipline, the moral and political climate in the collectives, conditions for labor and life, and the state of educational work. Yet socialist competition at the enterprises usually includes only the achievement of purely economic indicators. The competition among people is frequently replaced by a competition of figures, and these are frequently reduced to a comparison of the results of labor.

As a rule, competition among any collectives includes a certain set of elements (indicators) whose comparison reveals the best. If these elements of activity are subjected to strict quantitative evaluation (percentage of fulfillment of the plan, increase in labor productivity and so forth), a certain amount of objectivity is achieved in comparing the results. But many aspects of the production, socio-psychological, educational and socio-political activity cannot be reflected with adequate numerical standards. They can only be evaluated qualitatively.

For example, the level of mastery of a welder is established by the qualifications commission. There are six quality levels here--from the first category to the sixth. The qualitative level of the knowledge of a student is determined by the teacher. Here they use four levels. Poor, satisfactory, good and excellent.

In many cases, in order to evaluate the activity they only use two quality levels. For example, the evaluation of the public activity of an organization or official can be satisfactory or unsatisfactory. It is difficult, and practically impossible to measure quantitatively such elements as mutual assistance, the level of educational work in the collective, the level of discipline and so forth. Thus the problem on behalf of the researcher consists in searching for methods of contrasting or comparing various elements.

If when controlling technology it is necessary to know the precise quantitative values of all elements that influence the technological process, when controlling competition such a task is not included. A more compact schema is sufficient here. It must take into account not all the infinite number of factors and conditions of the life of the collective, but only the most essential ones. Such a task does not require knowledge of precise numerical parameters that characterize the system. It is sufficient to know their qualitative conditions. Moreover, for many control tasks it is sufficient to determine no more than two or three quality levels that characterize each element: "Yes" (with a numerical standard of two) the element contributes to the system's achievement of its goal; "No" (with a numerical standard of zero)--the element contributes poorly to the system's achievement of its goal. When the opinions of experts about the "capabilities" of the element diverge or when the qualitative level of the element is higher than "No" but still has not reached the level of "Yes," an intermediate quality level is introduced with the corresponding numerical standard. Such a gradation of qualitative evaluations, in the first place, increases the responsibility of the competitors for each element of activity and, in the second place, rids the administrative agency of quantitative imprecision and random distortions in the controlled system.

There are no great difficulties in changing over from quantitative evaluations of activity to qualitative ones if planned assignments are determined beforehand in terms of each element. The selection of indicators of the activity of the collective depends on the specific features of production and is completely in the hands of the administrative agency. Such qualitative scales whose gradations are ordered according to the principle "from best to worst" are widely used in statistical modeling and in decision making problems.

Let us set the task of qualitatively comparing the activity of six collectives in terms of seven indicators. Let us assume that the qualitative conditions of each indicator (element of activity) have been determined and entered in Table 1.

Table 1.

Collectives	Indicators (elements of activity) and their qualitative evaluations							Total of qualitative evaluations	Position
	I	II	III	IV	V	VI	VII		
1	1	2	1	1	2	0	2	9	
2	2	1	1	1	1	1	2	9	
3	2	1	1	1	2	0	2	9	
4	2	0	1	1	1	2	2	9	
5	1	1	0	1	2	2	2	9	
6	2	0	2	1	1	1	2	9	

If one judges from the totals of qualitative evaluations, preference cannot be given to any single collective. These are precisely the situations that arise most frequently, especially with a large number of indicators of activity. But the question arises of why must the quality of the system actually be determined by the simple arithmetic sum of qualities of its elements? The evaluation of an integral quality obviously has other features.

Intuitively sensing this, many practical workers, when comparing the activity of several collectives or individual workers, introduce into the calculations all kinds of points or proportions of elements, but since they cannot find a scientific basis, they make it subjective and frequently completely unsubstantiate it. One can give many examples of this. Thus at enterprises of Voskresensk, for an integral evaluation of the creative labor of a specialist they introduce the following points:*

leadership of work for social organization at the enterprises--4 points;

leadership of seminars for party or economic education--5 points;

teaching in a school of advanced practice--3 points;

one publication in a scientific and technical information journal--6 points;

training in courses for increasing qualifications--5 points.

The quality of a specialist's labor is determined according to the sum of the elements of activity from the corresponding point evaluations.

Let us try to approach from a more substantiated standpoint the determination of the significance or the weighted function and qualities of element $F(k)$. But first let us determine those requirements which must be placed on this indicator for successful functioning of the system as a whole.

The main goal of a system which consists of labor collectives is well-arranged activity in terms of all indicators without exception. From the fact that all collectives have a common goal it still does not follow that they will all select the same means of achieving it. Moreover, it is also necessary to take into account factors which cause the collectives to neglect certain indicators that have little influence on the final results. The administrative agency must influence the collectives with a system of incentives, fines and other measures to eliminate conflicting situations. These influences should be directed toward development, that is, improvement of quality in terms of all elements. High evaluations of the majority or even of all collectives in terms of a particular element (in our Table--element VII) shows its successful functioning. The stimulating influences on this element are superfluous and only control is needed.

A lack of uniformity of qualitative evaluations of any element is a signal that it is necessary to exert influence, and the greater the lack of uniformity, the greater the influence should be (it is known that any irregularity in the

*Vinogradov, V. P., "Po tvorcheskim planam ITR" [According to Creative Plans of Engineering and Technical Personnel], Moscow, 1980, pp 36-42.

activity of the collectives undermines their unity and leads not to development, but to regression). The weighted function of the quality $F(k)$ of the element should also be a measure of this influence (a measure of encouragement for each unit of quality).

Thus the value of the function $F(k)$ for element VII should be equal to zero, and for element VI--maximum (here is the greatest irregularity). The value of $F(k)$ for element IV should also be equal to zero (not a single collective requires incentive with respect to this indicator). But since all of the collectives have only average indicators here, the administrative agency receives additional information about the fact that the unfavorable situation lies not in the activity of the collectives, but in the system of administration (for instance, one of the causes can be increased planning assignments).

The following is also important. If all collectives have succeeded in achieving the highest evaluations in terms of all elements, this is also unfavorable since there is no stimulus for development. From time to time the system should increase the irregularity, perhaps by increasing planning assignments or in some other way, and then gradually reduce it again. The administrative agency should be concerned about this.

Let us determine the numerical value of function $F(k)$ (subsequently we shall call it informational). Information theory extensively uses the concept of informational entropy as a measure of disorder in the object or phenomenon. It is determined in the following way.

Let x be a random amount which assumes the values $x_1, x_2, x_3, \dots, x_n$ with a probability of $p_1, p_2, p_3, \dots, p_n$. Then $F(X) = \sum p_i \ln(1/p_i)$ --informational entropy (informational function).

In our case the random amount of x is the qualitative measure of the element K , which can be given three values--0, 1 and 2 with various probabilities. Let us calculate the value of $F(k)$ for element 1 of Table 1:

$P_1 = 0$ --there are no zero evaluations in this column;

$P_2 = 2/6$ --two of the six possible units are in the column;

$P_3 = 4/6$ --four of the six possible units are in the column.

$F(KI) = (2/6) \cdot \ln(6/2) + (4/6) \cdot \ln(6/4) = 0.3662 + 0.2703 = 0.6365$,
 $F(KII) = 1.0114$, $F(KIII) = 0.8675$, $F(KIV) = 0$, and so forth. Since the values that were obtained are relative, we multiply each of them by 100, round them off and place them on the next lower line of Table 2.

Let us calculate the integral indicators of each collective:

$S_1 = 64 \cdot 1 + 101 \cdot 2 + 87 \cdot 1 + 0 \cdot 1 + 69 \cdot 2 + 110 \cdot 0 + 0 \cdot 2 = 491$;

$S_2 = 64 \cdot 2 + 101 \cdot 1 + 87 \cdot 1 + 0 \cdot 1 + 69 \cdot 1 + 110 \cdot 1 + 0 \cdot 2 = 495$, and so forth.

Table 2.

Collectives	Elements of activity and their qualitative evaluations							Integral indicators of quality S_1		Qualitative levels of collectives. Position
	I	II	III	IV	V	VI	VII			
1	1	2	1	1	2	0	2	491	37	IV
2	2	1	1	1	1	1	2	495	41	III
3	2	1	1	1	2	0	2	454	0	VI
4	2	0	1	1	1	2	2	504	50	II
5	1	1	0	1	2	2	2	523	69	I
6	2	0	2	1	1	1	2	481	27	V
F(k)	64	101	87	0	69	110	0			

Table 3.

Collectives	Elements of activity									Integral quality		Position
	I	II	III	IV	V	VI	VII	VIII	IX			
2	1.2	0.97	0.7	0.05	280	5	250	1.2	0.71	1582	197	II
3	2.3	0.88	0.3	0.12	460	2	180	1.7	0.65	1623	238	I
4	2.6	0.74	0.2	0.00	590	4	320	1.6	0.68	1385	0	VI
5	2.4	0.77	0.6	0.24	370	3	120	1.2	0.84	1544	159	III
6	2.2	0.96	0.1	0.07	190	5	140	1.6	0.63	1508	123	V
F(k)	1.4	0.84	0.5	0.22	210	4	270	1.2	0.71	1527	142	IV
1	64	110	101	133	101	110	69	69	45			

For analysis it is convenient to use the differences in each indicator and the minimum of them: $491 - 454 = 37$, $495 - 454 = 41$, and so forth.

Naturally, not all elements of activity contribute equally to the system's achievement of its goal. Practice shows that it is very difficult to determine the numerical expression of the value of an element. The information function $F(k)$ does not indicate the level of significance of the element in the system, but reveals the "difficult" elements of activity in the given stage. But perhaps the difficulty of fulfillment is also a result of the significance? From elements that are easy to fulfill one can hardly expect a great irregularity in the qualitative evaluations.

Thus the proposed methods relieve the administrative agency of the subjective introduction of all kinds of points which artificially reduce the value of certain kinds of activity with respect to others and cause a lack of objectivity in the evaluation of the results of competition, and they also reduce its role as an important factor in improving the all-around activity of the collectives.

The methods that have been described are used successfully for summing up the results of the activity of collectives of departments and scientific research laboratories of the Novosibirsk institute of rail transportation engineers and the Novosibirsk institute of the national economy. In the Dzhalil'neft' petroleum extraction administration (Tatneft' association) the social and economic activity of the drilling and repair brigades are evaluated qualitatively by these methods. And they use not three, but four qualitative levels: 3--excellent, 2--good, 1--satisfactory and 0--poor (see Table 3).

Let us consider the economic aspect of the activity of the collectives of one of the Kuybyshev plants during the report period in terms of the following indicators:

- I. Increased labor productivity, percentage.
- II. Coefficient of product quality.
- III. Rhythmic production.
- IV. Savings on energy and raw material resources.
- V. Profit.
- VI. Reduced production costs.
- VII. Output-capital ratio.
- VIII. Coefficient of utilization of equipment.
- IX. Fulfillment of plan in terms of contractual deliveries.

The results are reflected in Table 3.

The calculations were made on an electronic computer. The initial data are the real numerical values for each element of activity. By a special procedure they are translated into the corresponding quantitative evaluations on a four-rank scale. The results of the calculation are given in a convenient tabular form. Examples of the output from the machine are given in Table 4.

It is interesting to note the difference in the distribution of positions when only 9 indicators are taken into account and when an additional 7 are. The tables leave a space for the final decision of the manager: And after the results were summed up were there changes in the collective? Were there violations in some while, on the contrary, new successes were achieved in others.

KamAZ has done a very successful job of selecting indicators for summing up the results of the competition among various structural subdivisions.* All collectives were distributed in 7 groups, depending on the functional indicators.

*"Organizatsiya sotsialisticheskogo sorevnovaniya na Kamskom ob'yedinenii po proizvodstvu bol'shegruznykh avtomobiley" [Organization of Socialist Competition at the Kama Association for Producing Large-Cargo Trucks], Naberezhnyye Chelny, 1978.

Table 4. Results of Activity of Petroleum Industries of the Dzhaliil'neft' Petroleum and Gas Extraction Administration During Fourth Quarter of 1981.

Collectives of petroleum industries	Indicators								Integral quality	Position
	1	2	3	4	5	6	7	8		
1	100.3	104.0	99.8	81.3	113.6	103.6	115.8	3.0	1382	476
2	100.2	102.0	100.0	71.2	100.0	94.9	109.8	1.0	906	0
3	100.4	141.0	100.5	98.0	109.5	103.9	28.0	0.0	1078	172
4	100.2	103.0	101.0	102.2	104.2	111.8	103.0	2.0	1334	428
5	100.3	122.0	104.0	43.7	110.8	106.1	62.6	0.0	1068	162
F(k)	0	67	95	105	105	95	67	133		

Basic indicators

1. Fulfillment of plan
2. Fulfillment of socialist commitments
3. Proportional number of personnel
4. Idle time of wells
5. Production expenditures
6. Operation period between repairs
7. Overtime hours
8. Economy measures

Collectives of petroleum industries	Indicators								Continuation of Table	
	9	10	11	12	13				Integral quality	Position
1	0.4	2.0	2.1	45.0	0.5	744	77	2		
2	-1.7	1.0	1.8	31.0	0.9	677	10	4		
3	1.5	1.0	2.0	16.0	0.7	687	20	3		
4	0.5	2.0	2.3	37.0	0.7	954	287	1		
5	-1.9	1.0	1.7	60.0	0.7	664	0	5		
(K)	105	67	105	95	105					

Indicators Accounted For

9. Labor protection
10. Environmental protection
11. Culture of production
12. Increased qualifications
13. Efficiency proposals

Thus for summing up the results of the competition in the first group (it includes 9 plants of the associations) the indicators were broken down into two groups: 16 economic indicators (increased labor productivity, commercial product output, rhythmic production, quality coefficient and so forth) and 11 others that were taken into account (efficiency proposals and inventions, labor turnover, labor discipline, labor protection, culture of production and so forth). Additionally, KamAZ established indicators and conditions for competition for the titles: "Best Brigade" (6 indicators), "Best Worker" (9), "Best Master" (15), and so forth. The winners are given certificates and bonuses.

Table 5. Summary Table

Collectives of petroleum industries	Integral quality		Position
1	2126	543	2
2	1583	0	5
3	1765	182	3
4	2288	705	1
5	1735	152	4

From the Editorial Staff

The problem of summing up the results of socialist competition bothers labor collectives. One of the key issues is how to combine completely different indicators. V. V. Krasil'nikov suggests applying integral evaluation with the help of methods of information theory. Then the greatest weight is given to indicators with the greatest difference in amounts. This suggestion can give rise to doubts if one does not take into account the differences in the content of those aspects of the activity that are being evaluated. It is known, for example, how important the differences are in fulfilling the plan for the extraction of oil, even if they reach only several percentage points. The method proposed by the author has been justified at enterprises with which he works under economic agreements. This fact shows the usefulness of such an approach under the specific conditions where, in particular, one is clearly aware of the value of various indicators. By publishing this article the editorial staff also hopes that the readers will have new ideas and suggestions.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

TRAINING SEEN AS KEY TO SOLVING 'PROBLEM' OF LINE SUPERVISORS

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 100-107

[Article by N. T. Bordyugov, director of the Signal Plant (Kishinev): "There Are Vacancies"]

[Text] Under the conditions of developed socialism the complication of the processes that take place in the economy and in socio-political and spiritual life, constantly raise the demands on the level of ideological and theoretical training, occupational competence and political and moral maturity of management personnel.

I unconditionally agree with the author of "Feedback"* when he says that administration is a specific kind of activity which requires workers who have high organizational abilities. Far from everyone can be a manager. The process of finding, educating and improving candidates for management posts is fairly complex. Many problems arise. But the methods proposed by A. A. Avakyan to find managers seem debatable to me.

With respect to the essence of the shortcomings in the organization of the certification of specialists, the author of the article is correct to a certain degree, but it is hardly expedient to replace it with the competitive method of finding candidates for management which he suggests. Indeed during the procedure for certification it is difficult to evaluate the business qualities of the specialist profoundly and comprehensively just as one cannot simply determine the depth of knowledge from an examination. Random factors can intervene: a bad question or reaction to the situation. Therefore it becomes very important to have preliminary preparation for certification, especially a compilation of the characteristics.

In training and certification we try to adhere to established rules. The characteristics are drawn up ahead of time, discussed in the collectives and signed by the corresponding people. No less than a week before certification the specialists are familiarized with them.

*EKO, No 9, 1982.

On the basis of data concerning the engineering and technical worker and taking into account the discussion of the results of his activity, the commission by a vote (open at the plant and closed at the special design bureau) gives an evaluation of the person to be certified. This policy precludes the possibility of direct pressure on the part of the manager of the enterprise concerning the decision of the certification commission, although preliminary statements of the director and managers of public organizations and their opinions can have a certain influence on individual members of the commission.

It should be noted that we managers of enterprises, unfortunately, do not devote the proper attention to a detailed study of the results of certification and proposals of those being certified. And this also reduces the role and significance of the procedure to a certain degree.

Still, regardless of how ineffective the certification may be, the proposal of the author of the article to replace it with a competition of design strikes me as being even more questionable. Here he even contradicts himself. If in order to reveal the specific qualities of the manager, innate or acquired organizational abilities, one needs tests like tests of the hearing, rhythm and musical capabilities of those entering a conservatory or a musical school, what can a plan provide? At best it will make it possible to determine the specialist's competence in one area or another. But, as we know, there are almost no practical workers left in management positions. VUZ's provide sufficient engineering or economic training. It is not competence that is the weak point of the manager, although in principle I am not against competition as one of the additional forms for evaluating the manager, since it causes one to periodically study special problems in depth. One must not forget that it is one thing to draw up a good plan and another thing to implement it.

Such a competition can act as one of the additional forms for evaluating today's or future managers, one which makes them periodically study special problems in greater depth.

And I think Avakyan's proposal about a commission of experts for conducting competitions is absolutely unacceptable. At enterprises today there is an immense number of commissions, councils, groups and other organizational forms that operate on a public basis, and as part of their service duties which require all kinds of information and explanations. And outside the enterprise one cannot count all the organizations whose representatives have a right to go directly to the director and demand from him reports, explanations, information or simply attention. Sometimes the director goes for weeks without time to deal with anything other than preparing information and responses to questions and demands.

The author of "Feedback" has the idea that there are many who wish to assume management positions. The problem is only a matter of selecting the most worthy. But in fact everything is far from being so simple. We are faced more with the problem of a shortage of production commanders than an excess of them, especially line supervisors. I can say without exaggeration that the position of shop chief today is almost as unprestigious as that of a junior service worker or a worker in auxiliary production.

What is the reason for the existing situation? In traditional organizational structures the shop chief is responsible for literally everything. The range of his duties can be compared with the functions of the director of a small enterprise, but he does not have enough rights and responsibilities, especially for solving social-domestic problems. The shop chief is responsible for the plan, for product quality, for the operation of equipment, for technical safety, for educational work and labor disciplines . . . public organizations persistently enlist him in the sphere of their own concerns and plans. They turn to the shop chief with housing problems and for places in children's institutions, but he can do nothing here without the administration and the plant committee.

What are the incentives for all this work? If one compares a shop chief with the manager of a group or sector of the special design bureau at a plant, it turns out that compared to them he is in less favorable moral and material circumstances. Specialists of the special design bureaus receive wages that are almost equal to those of shop leaders with an eight-hour working day and less responsibility. The working day of the shop chief lasts no less than ten hours: he meets the workers of the first shift, supervises the beginning of the second shift, and he must participate in shop social measures and even help in preparing them. There are also plant measures in which the shop chief's participation is mandatory

The problem of bringing order into the wages of line supervisors has long been in need of a solution. It involves not only the chiefs and deputy chiefs of shops, but to an even greater degree the masters and chiefs of sections (senior masters). Each year it becomes more complicated to augment this area of line supervisors.

Line personnel are formed from graduates of higher and secondary specialized training institutions and also from plant workers who have completed VUZ's and tekhnikums without leave from production. But in fact it turns out that the young specialist tries with all his might to end up in technical service, and the worker with a diploma after completing training in an institute or tekhnikum prefers to remain in his previous position. Moreover, there is now a tendency among VUZ graduates to obtain an assignment to a working position. Having become qualified chiefs within a year, they have achieved earnings of 300 rubles a month while the earnings of a master do not go above 200 rubles.

Quite recently one of our leading welders who was included in the reserve of personnel for the position of shift master completed the tekhnikum in precision mechanics. But he refused to accept a new assignment and remained in his previous working position. I do not say this to condemn him at all. He is a production leader, a conscientious and efficient worker, and the author of many efficiency proposals. It is not a matter of this, but a matter of the lack of motivation for advancement to the position of line supervisor.

I think the readers will understand me correctly. We are not speaking about the helplessness of managers of enterprises, but a problem that has become common for many of them. We are trying to master the situation and not give in to it. But it is not easy to overcome it.

What measures are we taking? Our plant has created a branch of the department for design and production of electronic computer equipment of the Kishinev polytechnical institute. Specialists of the plant and the special design bureau give lectures and conduct practical studies among the students in courses 4 and 5 of the profile disciplines and lead the practice, course and diploma planning. I conduct a course in administration and organization of production and I am in charge of the branch of the department. I began this in spite of how busy I was simply because I was attracted by the opportunity to become familiar in advance with the future generation of engineering and technical personnel and discover those who had an inclination toward administration so that I could deal with them more effectively two years later.

I cannot say that my search for capable administrators has been productive. Sometimes out of 50 people I enter only 10 names in my notebook (as a rule, we train two groups of students of 25 each), and sometimes even less. In the 1980-1981 school year I recommended 7 graduates for the position of line supervisor. The offer was accepted by 4 people and 3 of them requested working positions.

Before 1973 we ordinarily applied for young specialists and could not count on their adapting to the enterprise in less than two years. After creating the branch of the department we organized practice and diploma planning at the plant, equipped the base laboratory of the institute for conducting research, offered the department operative equipment, and organized training classes. Because of the plant department we have an advantage in that the specialists adapt in a year and a half since now they come to us knowing our technological chain and system of administration.

We also devote a great deal of attention to the reserve of personnel for advancement. Who but we ourselves can be concerned about production commanders? I do not think that other enterprise managers count on personnel from outside either. Good workers, as a rule, do not leave. And poor workers from outside are 100 times worse than one's own poor workers if only because one's own know the industry and the existing requirements.

After coordination with party and trade-union organizations an order is issued for including one specialist or another in the reserve of personnel for advancement. Every half year by a special order the reserve is updated. There is a certain movement: one person is promoted, another quits or leaves for another city, and it sometimes happens that it is necessary to remove from the reserve individual specialists who have not proved themselves or have shown their bad side. All those included in the reserve go through training under a particular program. They are given lectures on labor legislation, economic law, sociology and psychology of administration, and production organization.

A report card is filled out for each specialist in the reserve. At the same time it is suggested that he draw up his personal plan for training. Each year we organize temporary duty in the places of future employment. For temporary duty we select periods when the regular worker is on vacation, on a long business trip or in training with leave from production in institutes for increasing qualifications or in courses. The worker being replaced and his deputy draw up a plan of basic assignments together. The temporary duty is approved by an order from the plant. After this duty is completed a description of reactions is provided.

I think that with the help of the system of promotion of management personnel in existence at the plant and the work with the reserve we have managed to achieve something. Here 94 percent of the engineering and technical personnel qualify for the position they hold in terms of education and level of competence. There is a certain number of practical workers of prepension age. They cope with their duties and there is no reason to replace them before they go on a pension. Managers or specialists younger than 50 years of age have a higher or secondary specialized education.

The methods council under the deputy director for personnel helps the personnel service in its work with the reserve. The council develops and approves training programs for the reserve and personal plans for those included in the reserve, and it supervises their implementation. The council of masters and the council of young specialists render a great deal of assistance to the personnel service in its work with the reserve. The certification of masters and the awarding of the titles of masters first and second class to them, which provides a wage increase of 15-25 percent, takes place only with the participation of the council of masters. We have introduced housing privileges for line personnel. Today the plant needs one master in the dormitory for small families. All the other line supervisors, including the shop chiefs, have been provided with housing.

Of the managers 60-65 percent are assigned from the reserve, and 80 percent of those who are promoted remain.

Our measures have helped to overcome difficulties in selecting line personnel. With an average labor turnover of the plant equal to 11 percent, the turnover of masters is at a level of 7 percent.

But still the problem of management personnel for the plant is a problem of line personnel. In one of my notebooks which I have conventionally called "Shortage," most of the unfilled vacancies are for line personnel. The percentage of the reserve for promotion to these positions here is no more than 30 percent while there are 2-3 people each for other positions.

Radical changes are possible, in my opinion, with the creation of a special system for training personnel for management in the higher training institutions, with increased prestige for the positions of line supervisors and with improved payment for their labor.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

CONTINUED TRAINING, EXPANSION OF MANAGERIAL MANPOWER POOL NEEDED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 107-113

[Article by N. Ye. Leonov, candidate of economic sciences, director of the Krasnoye Sormovo Plant (Gorky): "The Search for Managers--A Constant Task"]

[Text] The author of the article "Feedback" concentrated his attention on finding candidates for managerial positions. I fully share the opinion of participants in the round table in Novosibirsk to the effect that it is not enough to find the optimal candidate, that it is also necessary to turn him into a good production commander. The director undoubtedly has a large amount of responsibility for the composition of planned personnel with various managerial ranks. Neither the plan nor other concerns release him from this. The director is not indifferent to his assistants and those who think as he does.

Every one of our specialists is certified once every four years. And, as a rule, during this period he undergoes retraining either in the plant course network or in the branch system for increasing qualifications. There are three degrees of education in effect for the plant's line personnel: studies with young specialists; courses for masters and senior masters; and courses for shop chiefs and their deputies.

The training of young specialists, masters and senior masters ends with a course report; deputies and shop chiefs upon completing the courses must prepare a graduation plan and defend it in public. I think that without this all training is empty shop talk. The reports are written on concrete problems that are related to work, technical safety and improvement of labor organization in the section. The requirements are higher for a graduation plan. It is necessary to display the capability of analyzing production situations and understanding the prospects and the problems in the development of the subdivision with which one is entrusted.

Familiarity with these projects can provide the director with a great deal. Here one can see right before his very eyes how broadly the specialist thinks, whether he is inclined to solve difficult problems or whether he is engaged only in immediate issues. Therefore with all my other work I have taken on the mission of chairman of the graduation commission and attend all of the defenses. Before the defense each project is reviewed by the head specialists or managers of the plant services.

A. A. Avakyan suggests closed competitions with the participation of expert organizations. I am not sure that they are necessary everywhere. Perhaps they could be conducted in places where cases of protectionism have been revealed or violations of the procedures for certification and work with the reserve. But I do not think that this can be a radical means. In such collectives one cannot get along without improving the entire atmosphere. We conduct open competitions for the best work and issue an order concerning the introduction of interesting suggestions. The graduation work or report plus a thorough description already constitute certain conditions for a more objective evaluation of the business qualities of the specialist during certification.

Once it turned out that one of the capable engineers spent 15 years in the position of deputy shop chief. The personnel service was not attentive enough, but, of course, the blame cannot be removed from the director either. The specialist's graduation work at the time of training in courses showed that we were dealing with a mature manager who can implement valuable ideas regarding shop administration. The mistake was eliminated. In another case the graduation plan made it possible to promote a young, but promising engineer to shop chief. He brilliantly defended his plan which was devoted to the creation of an automated subsystem for shop control. He is now in charge of one of the largest machine assembly shops where the developed subsystem is being introduced. This shop has small series and individual production. It annually produces three-four batches of parts, each including 35,000-38,000. Half of them go through the line of intershop cooperation and the other half for internal production. Problems of administration and operational control have always been critical. The system of payment for labor in part operations was ineffective. This engineer developed a plan for production administration on the basis of a mini-computer, suggested paying for the final technological batch of parts, and took advantage of the experience in brigade organization of labor at the Kaluga pipe plant with payment for the final result. Thus the introduction of parts was related to the output. The shop subsystem has been developed into a plant automated control system. Specialists of the plant computer center help the shop chief in implementing the plan.

Apparently it would be useful if the plant director would conduct studies on a particular subject in the courses for increasing the qualifications of specialists. A good deal is explained this way and general positions and viewpoints are developed. In such an informal situation it is possible to convince people more rapidly than when orders are given. At least it seemed to me that this was the case when I taught the subject "Socialist Competition and the Economic Mechanism." Certain shop chiefs take a fairly formal approach to questions of organizing socialist competition, completely entrusting this work to shop trade union committees or dealing with it in a wait-and-see way. In the seminar there were disputes and various points of view regarding the criteria and methods for determining the level of organization of socialist competition in the shop which were proposed by the students. But still each of them evaluated the level of organization of competition in his shop and each was able to be convinced that the majority of criteria objectively reflect the result and on the basis of these it is possible to obtain a correct idea about the work of the collective. Shop managers began to get involved in the organization of competition.

Conferences of young specialists are of great interest to the manager. Who will be at the steering wheel in a couple of years? What do they think about and what bothers them? Their reports can give answers to many questions. I do not insist that the author of a good report should immediately be promoted. But it is useful to write down his name and see how he moves. At one time, incidentally, the head engineer and the secretary of the party committee were chairmen of the plant's council of young specialists.

Taking into account the special importance of work with the reserve of personnel for advancement and its complexity, one should not forget about a number of unsolved problems. Until recently the main method of leadership was considered to be administrative or organizational-managerial. Under these conditions the effectiveness of administration was determined mainly by the knowledge of technical equipment, experience and intuition of the manager.

We have now assimilated economic methods of management, in combination with administrative ones, of course. Life forces us to turn more and more to socio-psychological and socio-pedagogical knowledge. In his activity the modern manager must take advantage of the entire arsenal of means (in various combinations, depending on the specific conditions) for increasing the effectiveness of production administration. It is impossible to master them successfully without assimilating a complex of special knowledge and without acquiring a certain scientific education in administration.

Such a statement of the problem requires of technical VUZ's a certain restructuring of their work from the standpoint of expedient training of production commanders. Unfortunately the higher school has not gone as far as it can with respect to this issue. At one time the plant sociologists investigated the effectiveness of the utilization of specialists. More than 400 people who had completed VUZ's during the past 10 years were questioned. It turned out that every tenth VUZ graduate wanted to work in an administrative position, that is, he had somehow prepared himself for managerial activity. The remainder hoped to work as designers, researchers and technologists. But the plant needs line supervisors. The master is the first level in management work. From them we gradually, carefully and relatively slowly form managers of a higher rank.

In my opinion, our technical VUZ's should deal more flexibly and persistently with the occupational and professional orientation of future production commanders and, if you wish, the occupational selection of the most capable who are most suited to managerial work.

How many specialists should one have in the reserve for one position or another in the administration of the enterprise? How does one determine when a person is ready to transfer to a new job? How many years can he be in the reserve without losing the prospects for promotion, and when does he begin to feel that his position as a candidate has lasted too long? In addition to these there are a number of other questions whose answers can be provided only by sociological research.

Having revealed through investigation the shortcomings of the employment structure of the enterprise and possible ways of improving it, we used electronic computers to calculate and compile the appropriate prognosis with respect to the education and qualifications of specialists. Other research had the goal of analyzing the advancement of young specialists. On the basis of the results that were obtained we revised the provisions "on the propationary period of young specialists."

I should like to reply to the author of "Feedback" regarding the notion that all plans are drawn up in such a way that they can be fulfilled "with closed eyes," with "little effort" while leading a "peaceful life." The structure of the state plan is so complex and difficult both in terms of the products list and in terms of volume indicators that the plant's management personnel--from the shop planner and master to the plant director--do not have time for a "peaceful life." The difficulty of the plans requires of all plant management personnel a full exertion of efforts and knowledge, strong and constant attention to the course of the production process.

The enterprise's strategy was determined by the plan for the 11th Five-Year Plan and the basic directions for our activity for the period up to 1990. The director is responsible for their implementation. His work is under the constant supervision of party agencies, soviet authority agencies and the ministry. The state plan is the law for everyone. The ministry strictly controls the realization of state strategy by each manager, and there are also other extremely authoritative supervisory agencies. All of them can give a valid evaluation to the activity of any enterprise and any branch of the national economy and, consequently, can precisely evaluate the degree to which the manager is qualified for his post. Therefore, in my opinion, there is no need to create any additional organizations in the form of special expert consultation firms. Such firms are necessary for other purposes: to render consultative assistance to enterprises for improving the system of administration and developing new administrative methods and devices.

I have made these remarks on the basis of our daily production practice. The search for the best managers is a permanent task. The subject of A. A. Avakyan's article deserves widespread consideration.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

PRODUCTION STANDARDS CAN BE RAISED WITHOUT SACRIFICING WAGE RATES

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 114-124

[Article by A. D. Ayrenkremer, candidate of economic sciences (Kiev): "You Can Rise the Norm, But There is no Need to Cut Rates"]⁷

[Text] Is it not time to stop cutting wage rates? Forgive the liberty taken with this turn of phrase. But production language is very expressive and therefore it is better to make one understand how crucial the problem is. For "to cut" does not sound the same as "to reduce." It is much more painful, and this means that the problem of permanent or, as they sometimes say, fixed wage rates is still awaiting a solution. The question is only one of whether the time has come. And, of course, how to do it.

In my days as a shop norm setter I frequently spoke with workers regarding revision of the output norms. The conversations varied--peaceful and not very peaceful. I especially recall one in which I heard the reproach: "It is not enough that you increase the norm, but you also cut the rates" I tried in vain to explain that it was impossible otherwise. Then I myself began to think that way. We parted dissatisfied with one another.

More than one decade has passed since that time. The worker has become more intelligent. Every piece rate worker knows the arithmetic by which output norms are increased and rates decrease, but almost every one of them is still against it. And perhaps this is not a matter of norms. As members of the socialist society workers are undoubtedly interested in increasing norms and improving their quality, for without this it is impossible to increase labor productivity. It is a matter of rates: in personal interest, which still has not sufficiently been placed in the service of the society. With a complete understanding of social needs one can hardly be glad when one's own earnings suddenly decrease.

This is why one must assume that L. M. Chirkov* was in favor of allowing the piece rate worker to earn actually as much as his mastery is worth and not as much as he is "offered." Is it possible to imagine this when any revision of norms involves a reduction of the rate?

*See EKO, No 7, 1979, p 81.

More than 20 years ago it was suggested that we do not consider measures that provide for increased productivity as a result of increased ability and intensiveness of the labor of workers as a basis for increasing output norms and reducing rates. These factors which depend on the workers were to bring about an increase in the basic earnings of piece-rate workers. Subsequently the conclusion was drawn: such an approach is fairer when applying unified branch output norms or norms that are calculated in terms of unified time normatives: new rate conditions (they were introduced at that time) considerably expand the sphere of application of these norms; consequently, ". . . there will be general application of the practice of the inadmissibility of increasing norms as a result of increased ability or intensiveness of labor."*

As we know, this did not happen, mainly because of the not unfounded fears that there would be the necessary ratio between increased labor productivity and average wages: about two-thirds of the norms become outdated under the influence of factors that depend on the workers, and only approximately one-third of the norms require replacement as a result of measures for technical and organizational improvement of production. The normative base which was inadequately centralized at the time probably also played a role. It is most likely that these and other considerations had an effect. But still, ten years later the idea of a differentiated approach to changing rates, depending on various factors in output growth has confirmed its expediency with experimental testing of the Scientific Research Institute of Labor.

According to the development of the Scientific Research Institute of Labor the norms were to be changed regardless of the reasons for the growth of the output. The difference in the reasons affected only the condition of the rate. This approach seems correct for otherwise one reduces the role of the labor norm as a factor in increasing its productivity. As for rates, they decreased according to the usual dependency if the norms were changed, but remained the same when the output norms were revised, that is, they increased because of increased output resulting from factors depending on the workers.

Thus it appeared on the surface, in the eyes of the workers, but the technically unchanging rates were provided by the fact that with each revision the new rate, calculated as usual, was multiplied by a correcting coefficient which was equal to the ratio between the new output norm and the base norm. As the experiment showed, the second part of the system was efficient too. The workers correctly perceived the reduction of the rates for this was done only in cases when, as a result of a specific measure, the output jumped and therefore earnings did not decrease. Thus the workers' reaction to the unchanging rates was even more favorable.

But subsequently the system's mechanism began to break down. The problem was that only part of the products, those produced within the limits of the norm, were paid for at the same rates. And those produced in excess of the norm were paid for at reduced rates. This was probably done in order that intensive factors could still somewhat reduce wage expenditures per unit of output. In principle it is correct, for otherwise one cannot provide for the necessary

*Aganbegyan, A. G., Mayer, V. F., "Zarabotnaya plata v SSSR" [Wages in the USSR], Moscow, Gosplanizdat, 1959, p 119.

more rapid growth of labor productivity. But the path itself was not the best: the reduced rate served as a negative stimulus for increasing output and was poorly received by the workers. Moreover, accounts were significantly complicated: for each operation (job) it was necessary to separate the above-normative part of the products and do calculations at two rates, and so forth.

During the past 15 years a number of centralized measures have been taken to increase the motivation of the collectives of the enterprises, engineering and technical personnel and other workers to improve norm setting for labor. I shall discuss certain of these that pertain directly to piece rate workers. The enterprises were given the right to use for incentives for workers some of the savings on the wage fund that were formed as a result of increasing output norms. Thus the savings are calculated on the basis of a calculation of the volume of work which is to be done in three-six months. This measure fully justified itself in the practice of replacing norms. Actually, this is what it was initially intended for.

But when the norms are revised their stimulating significance is much less, for only permanent incentives can help here. The worker understands well that the remuneration is for one time (and relatively small), but the reduced rate is permanent. Of course, if they do not increase output. But even if they do this (in order to restore earnings), the rates can be cut again. This is why the workers certainly do not always fully reveal their personal reserves for increasing labor productivity. Here it is appropriate to ask: How does this assertion correspond to the somewhat widespread practice of revising norms on the initiative of the workers, at their request? In the first place, so far the sphere of the application of this is not so great; in the second place, defects were discovered in it.

I have frequently been especially interested in how this form succeeds at enterprises where it is relatively widespread. I do not consider it possible to give names for the discussions were confidential and the chiefs of the divisions for labor and wages did not conceal the fact that frequently the question is presented to the workers thus: Either submit the request and then receive a bonus or the norms will still be revised but without a bonus (or the bonus will be less). Incidentally, in the latter variant--when the bonus is less--they can sometimes do without direct pressure. They enter the various amounts of bonuses in the plant Provisions for Revising Norms (a large bonus--for revision on the initiative of the workers). Then there is already a fairly subtle hint, say, like: "Don't you think, comrades, that your norms are somewhat outdated? Think!"--and the worker involuntarily begins to weigh things . . . it would seem that the society losses more than material values here.*

The second centralized measure consisted in that the enterprises of machine building and several other branches of industry were granted the right to increase the piece rates (up to 20 percent) by norms calculated according to interbranch and branch normatives. An important step, especially if it is regarded as a beginning and is applied systematically.

*"Initiative . . . Under Force," PRAVDA 21 May 1980.

The aforementioned measures had a positive effect on the work for revising norms and rates and made it somewhat easier to carry it out. But was this enough? One can judge this indirectly from the results. Here is a competent evaluation from the chief of the division for organization, norm setting and labor productivity of the USSR State Committee for Labor and Wages, M. P. Glyantsev: "In industry as a whole 17-19 percent of the existing norms for quantity are revised annually, as a result of which we release 2.7-3 percent of the piece rate workers. Such a result cannot be recognized as adequate. If one excludes repeated accounting, one can draw the conclusion that many norms remain unchanged for more than 7-8 years. At a number of enterprises the existing norms are not revised at all."* One can add that in machine building, which accounts for more than 80 percent of the overall number of norms applied in industry and in the largest republic of the country, the Russian Federation, in 1978, for example, only 6.2 percent of the norms were revised!

From the data that have been presented it follows that, for example, in machine building where 5-7 years usually pass between the startup of machines and their removal from production, a number of norms and rates cease to be valid if they are not repeatedly revised. Thus persistently, although also quite uniquely, the fixed rate establishes itself in practice at the expense of weakening the mobilizing role of norms. But this is not as fixed as it must be in order to develop the initiative of the worker.

The experience that has been accumulated makes it possible to answer questions that arise. First, it is necessary to take advantage of the positive aspects of the system of the Scientific Research Institute of Labor. I share the opinion of Ye. Smirnov: this experience has been undeservedly forgotten.** It is expedient to use it as a basis. Second, it is necessary to utilize the rational elements from other systems and methods of incentives, strengthening them with certain additional requirements. Finally, the inefficient elements of the system of the Scientific Research Institute of Labor should be replaced with new decisions. Thus, in a synthesis of what is already known and tested and what is new and requires additional thought, one should find a solution to the problem of permanent rates.

An experimental check on the system of the Scientific Research Institute of Labor, which was conducted with the permission of the USSR State Committee for Labor and Wages and the AUCCTU at the beginning of the 1970's showed that the principle of stability of rates, if they are revised or reduced when the norms are replaced, correspond to the mass psychology of the workers. The need to change norms after a steady increase in output is also understandable. Then the workers are confident that the socialist state has precluded the possibility of applying norms that cause harm to the health of people. The mechanism for maintaining rates at the level of base rates with the help of an adjustment (correcting) coefficient is technically simple.

*Glyantsev, M., "The Introduction of Technically Substantiated Norms--A Continuous Process." SOTSIALISTICHESKIY TRUD, No 5, 1979, p 89.

**See Smirnov, Ye., "Labor Norms and Normatives: How Should They Be," SOTSIALISTICHESKIY TRUD, No 12, 1979, p 119.

Let us consider it in more detail with an abstract example of wage rate $C = 75$ kopecks an hour and base parameters: output norm $N = 20$ units an hour and rate $Ch = 75 : 20 = 3.75$ kopecks. If now the existing output norm is established, for example, at the level of $N_1 = 25$ units per hour, the rate, calculated with the adjustment coefficient $K = 25 : 20 = 1.25$, remains the same: $Ch_1 = (75 : 25) \cdot 1.25 = 3.75$ kopecks. Thus there is a difference between the piece rates and the existing output norms (time). But in the system of the Scientific Research Institute of Labor the difference is envisioned only with the goal of setting increased rates. I think this is an inadequate measure. It is necessary for the adjustment coefficient to operate in the direction of reduction. This would mean that, all other conditions being equal, the same permanent rate of 3.75 kopecks, calculated as $Ch_2 = 75 : 10) \cdot 0.5 = 3.75$ kopecks would correspond to the norm $N_2 = 10$ units per hour, that is, half as much as the base norm instead of the rate 7.5 kopecks. Further, in order for this measure to operate reliably enough it is necessary for the enterprise to have the right to adjust the price and make this compulsory,* and not to limit the coefficient itself to the maximum, for example 20 percent. In other words we are speaking about taking advantage of the past suggestion** about calculating the rates not according to the formula

$Ch = \frac{C}{N}$, as is now the case, but according to the formula $Ch = \frac{C}{N} \cdot K$. Then, continuing the example, one can have a totality of norms that are uniformly distributed on both sides of the base norm and one can draw up the following table:

Table.

Names of Indicators	Output norms (units per hour)								
	10	12.5	15	17.5	20	22.5	25	27.5	30
Wage rate, kopecks per hour	75	75	75	75	75	75	75	75	75
Usual rate, kopecks	7.5	6	5	4.29	3.75	3.33	3	2.73	2.5
Adjustment coefficient	0.5	0.625	0.75	0.875	1.0	1.125	1.25	1.375	1.5
Permanent rate, kopecks	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

From the table one can see that the rate calculated according to the base norm is permanent. Therefore if our sample base norm of $N = 20$ units per hour, as a result of some measure for increasing labor productivity, is to be replaced,

*This need is dictated by the fact that because of the shortage of labor force there is a serious lack of interest in revising rates on the part of masters and shop chiefs. Moreover in many cases this tendency is understood by managers of enterprises.

**See Prigarin, A. A. et al, "Napryazhennost' norm truda" [Tautness of Labor Norms], Moscow, Ekonomika, 1968, p 114.

for example, with a base norm of 25 units per hour (or, it makes no difference, when producing a new item a base norm of 25 units per hour is established for similar work, taking this measure into account), the new permanent rate (in cases where the norms are revised) will be equal to 3 kopecks (see table, line 2, column 8). Here the existing (current) norms are established by the enterprise at a level which at each given moment corresponds to its tasks and actual possibilities (skills and ability of workers, level of assimilation of production, condition of its organization and so forth).

Thus, in my opinion, we should use the effective part of the system of the Scientific Research Institute of Labor. But in order to overcome inadequate accounting for public interests in reducing expenditures on wages per unit of output and staying within the established wage fund, a new solution is proposed. In essence it is only new with respect to wages. Economists and production workers are well aware of it from the analysis of the production costs of products, one of the independent factors of whose reduction is increased production volume. In this case the production cost of an item decreases without reducing proportional expenditures for each of the items of expenditures because the production cost includes a permanent part--conventional permanent expenditures.

A similar effect is required: with an increase in the output, wages per unit of output should decrease without changing the rate. Obviously this can be achieved if one introduces into the wages of a piece-rate worker a permanent part, and it is best if this is done centrally--through a rate, for the degree to which labor productivity increases more rapidly than wages depends on the proportion of this permanent element. One can imagine this specifically as a new structural construction of the rate with a breakdown into two parts which are given the form wage rate and wage increment.

It is expedient to improve the structure of the rate both for piece-rate workers and for time-rate workers, for whose labor the norm setting is inadequate. With this approach it would be expedient to give the aforementioned increment the meaning of a load increment for normed labor. But if one regards piece-rate workers in isolation, and limits oneself only to improving their wage rate conditions, it would be more correct to call it an increment for work according to progressive rates.

We suggest that the rate should be calculated only from the tariff rate. And the tariff rate, whose hourly amount for each category of the tariff network is established centrally as a particular identical part of the rate, should be calculated in terms of time. Thus if a rate of 75 kopecks per hour is regarded as consisting of two parts in the ratio of 4:1, the tariff rate amounts to 60 kopecks, and the increment to it--15 kopecks (that is, $C = 60$, and $\Delta C = 15$ kopecks an hour). Under these conditions the worker with an actual output which is equal to the base norm (20 units per hour) will receive payment per unit of output as with the ordinary piece-rate system of 3.75 kopecks. But now this amount will consist of two parts: the permanent rate ($60 : 20 = 3$ kopecks) and the proportion of the rate increment that is applied for each unit of output-- $50 : 20 = 0.75$ kopecks.

But if the actual output deviates from the base output, regardless of the change of current norms and with unchanged rates, the pattern of the change of payments per unit of output will be similar to that which is today achieved only through changing the norms and rates. For example, in the new system of payments with an output of 15 units per hour the worker will obtain per unit of output $3 + 15 : 15 = 4$ kopecks, and with an output of 25 units, for each unit of output he will receive only $3 + 15 : 25 = 3.6$ kopecks. In the first case the worker's hourly earnings will be $15 \cdot 3 + 15 = 60$ kopecks,* and in the second-- $3 \cdot 3 + 15 = 90$ kopecks. Consequently, with an increase in output of 66.7 percent the wages will increase by 50 percent, or for each 1 percent of increase in labor productivity there will be a 0.75 percent increase in wages.

Thus permanence of rates and increased output lead to increased earnings of the piece-rate worker, and the permanence of the rate increment flexibly ensures that this increase is not as great as the increase in labor productivity. Now for comparison let us consider the dynamics of output and, one must add, norms under the conditions of the existing organization of wages. Here the decline in the payment per unit of output is sharper, but earnings, conversely, tend to be equalized. Thus if the payment for each unit of output drops from $75 : 15 = 5$ kopecks to $75 : 25 = 3$ kopecks, and, taking into account an increase of 20 percent (for a norm is applied for high quality that is 25 percent higher than the base norm)--to 3.6 kopecks, the hourly earnings increase to the same amount as in the first example, 90 kopecks, but now from 75 kopecks, or by only 20 percent. In this case for each 1 percent increase in labor productivity there is only 0.3 percent increase in earnings.

It would seem that this is better and more economical for the enterprise. But nonetheless the overall expenditure from the wage fund in the existing situation is higher than planned: $75 : 90 > 60 : 90$. But one example still does not prove anything and the question arises: Is the system of payment according to permanent rates capable of actually functioning without increasing the need for wage funds? A more detailed calculation done in a wide range of norms from 0.5 to 1.5 of the base norm (it is not included) convinces us that there are no doubts about this capability.

The range of norms selected as a basis for the calculations are practically completely adequate. As for the methods of calculation, they are based on a comparison of expenditures of wages per unit of output with the separated and unseparated rates. The first rate is combined with a calculation of the permanent rates according to the base norms, and the second is applied without changing the policy of calculating the rates, but at the time of the introduction of the base norms it is increased by 20 percent. The latter is completely correct since the proportion of technically substantiated norms, most of which are calculated according to progressive centralized normative, amounts to

With lower output and norms (than 15 units per hour, in the given example and in general than the norms that relate to the base as $(4 - 1) : 3 = 0.75$ with the given ratio between wage rates and increments $4 : 3$) the hourly earnings of the worker will turn out to be less than the wage rate. In this case it is necessary to turn to additional payments using the method of the Minsk and Belorussian incentive plants.

83 percent in USSR industry, and by the end of the current five-year plan it is predicted in an amount of 90-92 percent. Thus it is precisely these norms that should be applied as base norms and permanent rates should be measured in terms of them.

Further improvement of norm setting for labor is inseparably related to increasing state discipline. But still the proper order cannot be introduced into norm setting just through checks, and inspections, even the strictest ones. Here it is very important to implement the measures earmarked in the decree of the CPSU Central Committee and the USSR Council of Ministers, "On Improving Planning and Increasing the Influence of the Economic Mechanism on Increasing Production Efficiency and the Quality of Work," and above all the introduction of normative planning of the wage fund and applying limits on the number of personnel.

The question might arise as to whether we should not continue with the introduction of permanent rates until the aforementioned economic and administrative measures eliminate the shortcomings in norm setting for labor which still exist. It seems that this would be a mistake. For the present organization of payment for piece-rate labor impedes norm setting from getting on its feet. Deviations in norm setting for labor, to the extent which they are retained, with the introduction of the system can only weaken its influence on improving the distribution for labor, but do not deprive it of other important advantages, especially unlimited development of labor and creative initiative of workers on an economic basis. The administration of the enterprises receive the opportunity to make existing norms a true measure of labor and a factor in increasing its productivity.

Such are the main points of the system of permanent rates and several conclusions in its favor. The system is simple and, it seems, it should be comprehensible to the workers, which, however, requires verification in practice--in cases when both individual and collective (comprehensive) rates are applied with brigade organization of labor. Unfortunately, in order to conduct such an experiment it is not enough to find interested enterprises or even a ministry. Permission is often needed from the USSR State Committee for Labor and Wages.

I had already finished this article when I came upon the latest issue of PRAVDA. In a letter to the newspaper a machine builder labor veteran, N. Sakulin wrote: "At all plants there are divisions of labor and wages . . . if for some operation earnings suddenly 'jump' they look for a way of 'cutting' them to the average planned level. But is this really their task?"* How can one but recall again the old conversation? When leaving the worker said: "You can increase the norm, but it is not necessary to 'cut' the rate."

*PRAVDA, 7 July 1980.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

PROBLEMS, PROSPECTS FOR DIRECT DEPOSIT OF PAYCHECKS INTO SAVINGS ACCOUNTS

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 125-128

[Article by A. N. Burov, candidate of economic sciences, deputy director of the information and computer center of the Karagandaugol' Production Association (Karaganda): "Wages Through Savings Banks--Experience and Difficulties"]

[Text] Noncash accounts for wages through savings banks at the places of residence of the workers is a known method, but still a new one. In the Karaganda coal basin it was first applied in February 1972, and in 1976 the Karagandaugol' association transferred all of its main production collectives over to it (more than 72,000 workers).

An analysis of the results showed a multitude of advantages. According to data from a questionnaire of 3,000 people, the free time of each worker increased by 54 hours a year. More than 7,100 workers of Karaganda Oblast began to pay for housing and municipal services through savings banks each month. The development of such forms is impeded, true, by the lack of a unified document for regular payments for housing, electric power, radio, television and so forth.

There are also other unsolved problems.

Up to this point there are no unified methods for preparing and transferring production collectives over to the method of noncash accounts and evaluating their economic effectiveness. As a result, certain territorial administrations of Gostrudsbetskass require of the enterprises and organizations unjustifiably high initial volumes of work, increased staff and a quantity of computer equipment, and also an area for the location of the savings bank.

Agencies of the Gostrudsbetskass administration and the USSR Gosbank have sometimes made unjustified decisions. Thus in 1974 the USSR Gosbank, referring to the need for additional funds for the development of savings, unilaterally introduced the requirement of paying to savings banks a commission remuneration in the amount of 7 kopecks for each operation. This payment led to an unjustified increase in administrative expenditures and to a reduction of the economic incentive funds of the enterprises. At the same time, for covering

additional operational expenditures the savings banks received money in the amount of 2.7 percent of the sums remaining in the accounts. And noncash accounts for wages not only increase the expenditures of the savings banks, but also lead to increased deposits and deductions for operating expenditures. The economic groundlessness of the claims of the savings banks was proved and the next year the USSR Gosbank changed its decision.

Managers of savings banks insistently require that bookkeeping offices of enterprises transfer their earnings of the workers only in complete rubles and not kopecks. This condition somewhat reduces the labor-intensiveness of the operations in the savings banks, but it does not eliminate the existence of kopecks in personal accounts. But accounting workers at enterprises have to introduce an additional account of kopecks and add it to the earnings of the following month, and also organize control over those who have been released because the sum of the earnings must be transferred to the savings bank with kopecks. Obviously in order to free the enterprises of unnecessary accounting for kopecks one should first centrally allot the necessary quantity of computer equipment to those savings banks that introduce noncash accounts for wages.

The preparation and changeover of collectives of enterprises to the new form of issuing wages have important differences among the various regions of the country. Thus at the Belorussian automotive plant the changeover is carried out gradually, one shop after another; the savings bank has been located in the plant; the sums of earnings are transferred without kopecks. In Karaganda Oblast the production collectives were changed over completely and at one time, and the sums of earnings were transferred with kopecks to the savings banks in the places of residence of the workers. The presidium of the Belorussian SSR council of trade unions and the Gostrudsbetskass administration approved for the republic methods of document circulation and sample documents for savings banks and enterprises. The documents, which were issued with the help of electronic computers, envision printing the last names and initials of each worker, while the practice of the Karaganda savings banks shows that this information is excessive and increases the labor-intensiveness of the work and expenditures of computer time and paper. It is quite enough to have the numbers of the savings bank and the personal account of the depositor, the table number of the worker and the figure of the enterprise, that is, information which is already contained in the documents for the savings banks that are prepared by the computers.

It has long been time to develop standard forms of documents and systems for document circulation with the organization of noncash accounts for wages through savings banks. There are cases when accounting workers make mistakes and transfer excess sums to the personal accounts of the workers. Having found the mistake, they send to the savings bank a request in writing to return the surplus amount. Initially these requests were fulfilled, and there were no complaints from the workers and employees. But the board of the USSR Gostrudsbetskass by a directive letter demanded of the savings banks strict adherence to point 10 of the instructions of 20 June 1949 and forbade them to make returns, pointing out that in order to perform this operation it is first necessary to obtain the permission of the depositor.

It is necessary, however, to take into account that in this case the workers are a special kind of depositor. In an application submitted to the enterprise's bookkeeping office he has indicated the number of the savings bank and of his personal account and has entrusted the administration to deposit all of his earnings into the account. Consequently, the administration, acting as the authorized representative of the worker, has a right to correct mistakes independently. This is why it is necessary, it seems to us, to correct the instructions of the Gostrudsbetskass of 1949.

It happens that lower savings banks make mistakes in the amount of the declared sums of available money and they suggest that the depositor visit the savings bank at a different time. This, naturally, causes dissatisfaction.

Certain managers of enterprises do not wish to take on additional concerns: they do not allot premises for the savings banks, do not repair and equip them, and prolong the transfer of wages to noncash accounts.

There are also cases where by the day when the workers receive their wages the enterprise does not have the necessary quantity of funds in its account. Drawing up documents for short-term credit takes two or three days, as a result of which the time periods for submitting the documents to the savings banks and paying the workers are violated. In this situation it would be expedient to make it incumbent on savings banks to accept documents, fill them out and issue the wages to the worker at the established times without waiting for the money to be transferred to the accounts for the central savings banks, but performing these operations through its own funds, under the condition that the enterprise reimburse them for the sums that were issued. When there is delay in making the transfers it is necessary to grant the savings banks the right to take from the enterprises a certain percentage of the monetary funds.

On the whole one can suggest the following. In the first place, it is necessary to have unified instructions for preparing and transferring production collectives over to noncash accounts for earnings. This can be done by the USSR Gosplan since it involves the interests of the entire national economy. In the second place, we need scientifically substantiated norms for the number and distribution of savings banks, their staffs and their wage funds, which are submitted to administrations of the Gostrudsbetskass. In the third place, it is necessary to improve the material base for savings, and accelerate the introduction of the Sberkass automated control system. In the fourth place we should increase the material motivation for savings bank workers to change over to noncash accounts for wages.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

MISUSE OF SALARY BONUSES AT SEVERAL PLANTS IN ALMA-ATA DETAILED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 128-131

[Article by A. N. Lyubomirskiy and V. I. Yalunin, candidates of economic sciences (Alma-Ata): "How the Bonus is Transformed into Wages"]

[Text] In physics the difference in potentials give rise to electromotive force, whose advantage when applied is generally known. In economics the difference between stimulating potentials also creates a motive force, whose damage has still not been fully calculated. This force contributes to increasing labor turnover and leads to writing objects off and to illegal payments.

At industrial enterprises of the same city there are sharp differences in the earnings of workers of the same profession. This is not only a matter of fulfilling the norms, but the quality of norm settings and the methods for awarding bonuses. For example, for duty personnel the bonus is established in the amount of from 10 to 40 percent of the rate, but at one enterprise this is for fulfillment of a plan, and at another for the absence of breakdowns for which personnel are responsible.

If one takes into account that a unified rate and skill system has established unified categories, and consequently, wage rates, the difference in the amounts of bonuses appreciably affects the movement of the labor force. And this movement involves a fairly large group of time-rate workers. The picture is even spottier among piece-rate workers. They sometimes do not know why they are receiving a bonus, for there are a multitude of provisions concerning bonuses at enterprises. Thus many basic workers receive bonuses for economizing on fuel and electric power (although small ones) in spite of the fact that the machines they operate have no meters and their responsibility for these savings is extremely doubtful. Here it is rather to the credit of the power engineer who achieved fairly high expenditure norms. It is necessary to pay bonuses for economizing on energy resources, but not to anybody, but to those who deserve them. Bonuses are distributed in a similar way for releasing ferrous metal scraps, solid alloy soldered pieces, and nonferrous metal scraps.

There is a great multitude of provisions concerning bonuses for the output of products for export and for consumer goods, for fulfillment of plans for production and labor productivity, and for fulfillment of output norms. There are surprising possibilities of obtaining bonuses.

At the Alma-Ata machine tool building plant imeni XX let Oktyabrya provisions have been in effect for many years for awarding bonuses to workers for fulfilling output norms. There would be nothing strange in this if the norms had not been overfulfilled by 150-180 percent. The bonuses were transformed into a legitimate wage increment which was paid even if the enterprise failed to fulfill the planned assignments. Thus, in January 1981 the plant fulfilled the plan for the basic products list by 92 percent, but bonuses amounting to 27,200 rubles were awarded for overfulfillment of the norms. In February the plan for the basic products list was fulfilled by 63.9 percent, but bonuses amounting to 23,600 rubles were paid. To the question "For what are you paying bonuses?" not one of the responsible workers could give a reasonable answer.

We tried to find out at this enterprise how one can cover the norms twice, but nobody could give an economically substantiated explanation. The head technologist guarantees the quality of the products and the quality of the norms, but overfulfillment of the latter is possible only with violations of the conditions for the production of parts. In this situation there arises the question: Have the conditions for the production of parts not become outdated if increased speed does not affect their quality? This is most likely the case because much that is advanced and innovative is used in mechanical processing of metals.

According to data from a selective investigation, among the basic workers of the Pavlodar aluminum plant, the Pavlodarskiy tractor plant association, the combine for reinforced concrete items No 1 and other enterprises, it was revealed that more than 30 percent of the workers do not understand the connection between bonuses and the results of labor. While at the Alma-Ata machine tool building plant imeni XX let Oktyabrya bonuses are paid for overfulfillment of output norms, at the Pavlodar tractor plant, when the assignments are fulfilled by 60-80 percent the bonuses are still paid, in violation of the existing provisions concerning bonuses. It would be possible to understand the managers and economists of the tractor plant if the workers' earnings were low, but for certain workers they exceed 600 rubles, while the average earnings of lathe operators with an average wage rate category of 2.2 are 241 rubles 22 kopecks. Thus workers with low qualifications still receive high earnings.

The aforementioned enterprises are not exceptions. The essence of the matter is that at many enterprises bonuses are used as a means of regulating wages and not as an incentive factor. In the provisions for payment of the "13th wage" at enterprises there are such differences that one can only be surprised at the degree to which it is possible to distort the standard provisions which are recommended for utilization at the enterprises. Most of the remunerations for the results of the year should be used for retaining personnel, that is, for awarding bonuses to workers with a tenure of no more than five years. But there are too many cases when it is precisely these workers who receive the minimum amount of remuneration. There are frequent cases of redistribution of the remainder of the material incentive fund for these purposes, as a result of which there appears a "14th wage." This is in direct violation of existing legislation.

Today wages that are equal to 2-3 (and sometimes more) rates figure more and more frequently in announcements for needs for labor force at enterprises and organizations. Thus in the newspaper RUDNYY ALTAY in December 1980 positions were announced for subsidiary workers with wages of 200 rubles and for an experimental engineer with a salary of 160 rubles. The Alma-Ata KVOIT plant* in February 1981 posted an announcement concerning the need for crane operators, guaranteeing wages of 300-350 rubles. These cases are not the only ones. No provisions envision such high wages. Only one conclusion can be drawn: control over the utilization of the wage fund has weakened considerably if it does not exist at all in certain ministries and departments. Quite probably this is one of the main reasons why wages increase while labor productivity decreases.

The differences in the incentive systems at enterprises and organizations of various ministries and departments and the various levels of organization of norm setting for labor place in a more advantageous position those enterprises which have more violations and, consequently, higher wages with the same difficulty of labor. The economic and organizational harm from this situation in the area of labor stimulation is unquestionable and it can be calculated in monetary terms at any enterprise. To an even greater degree we sustain moral losses, for which it is frequently impossible to compensate. Having once experienced the possibility of easy earnings, people then look for permanent easy earnings. Hence labor turnover and the appearance of "rolling stones" and lazy workers.

How does one fight against such phenomena? The difficulty consists in that on the territory of the city and the oblast there are usually enterprises in operation which are under the jurisdiction of dozens of various ministries and departments. It is extremely difficult to bring their interests in line with unified territorial interests. The power that is capable of introducing order, it seems to us, are the territorial agencies for labor and people's control, whose authority extends to all enterprises and organizations located on a given territory. Territorial control systems should be given the necessary rights to bring order into norm setting, wages and material incentives for labor. They can also sanction a certain differentiation in the payment for workers of one occupation, thus providing for a certain rational transfer of personnel to enterprises of the region that critically need them or enterprises that are especially important. But in this case the transfer will be not spontaneous, but planned and in any case will be an exception and not a rule. The old and good principle of socialism should remain the rule: "for equal labor--equal payment."

*KVOIT--a plant for auxiliary boiler equipment and pipe lines of the USSR Ministry of Power and Electrification.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11172

CSO: 1820/38

NEW RATES DESIGNED TO SHIFT SHORT-HAUL, RUSH ORDER FREIGHT FROM RAILROADS
TO TRUCKS

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in
Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 132-136

[Article by V. V. Rusakova, candidate of economic sciences, and L. A. Borisova,
Scientific Research Institute of Price Setting of the USSR State Committee for
Labor and Wages (Moscow): "Truck Cargo Shipments--What Can Rates Do?"]

[Text] When evaluating the effectiveness of the utilization of the automotive
cargo fleet under modern conditions, it is necessary to take the ecological
factor into account--the degree to which automotive transportation affects the
surrounding environment. The experience of our country and a number of socialist
countries has shown that the economic effect cannot be achieved only by legal
or administrative measures. They must be augmented with economic measures.
Among the latter, in our opinion, an important position should be occupied by
the system of payments, which consists of rates for remuneration of expendi-
tures on the reproduction of natural resources used by automotive transporta-
tion (or highways) and fines for violations of norms for the utilization of
nature. It would be expedient to augment this system with rent payments which
are called upon to create equal autonomous financing possibilities for enter-
prises that use natural resources whose quality varies, and also to stimulate
their efficient utilization.

The effectiveness of fines will increase if they are combined with incentives
for reducing the harm caused to nature (reduced pollution, reduced area of
land taken for the construction of roads, and so forth) as compared to the
established norms. The implementation by each enterprise of tasks for efficient
utilization of natural resources should be reflected in their economic activity.
The practice of determining the effectiveness of expenditures on the production
of motor vehicles also needs to be changed. The Ministry of Automotive
Transportation is oriented toward the production of universal vehicles with
an average cargo capacity that are capable of serving a maximum number of
consumers. And it is hardly expedient to seek in the rates for shipment of
cargos means with which it is possible to stimulate priority production of
large-tonnage motor vehicles, specialized rolling stock and other rolling
stock that is in "short supply."

It is hardly correct to talk about redistributing the "high-profit" automotive enterprises that operate rolling stock that is in "short supply," as is suggested by doctor of economic sciences Ye. F. Tikhomirov, in favor of industry since in addition to highly profitable automotive enterprises in the RSFSR, for example, about 40 percent of the automotive enterprises operate at a loss, which is brought about not only by the structure of the fleet, but also by the structure and volume of the cargo turnover, the condition of the road network and a number of other factors. Moreover, new large-tonnage motor vehicles of the KAMAZ type are also costly rolling stock, and when the fleet was augmented with these motor vehicles in 1974-1979 it led to an 18-percent increase in the cost of proportional shipments under the article "Amortization of Rolling Stock."

Therefore we have doubts about the proposal to withhold from automotive transportation the problematic "high profit" through issuing licenses for the utilization of rolling stock that is in "short supply." As measures that stimulate the production of large-tonnage trucks that are in short supply and motor vehicles with diesel engines one can recommend keeping accounts with automotive plants for the structure of the automotive fleet that is delivered, that is, according to direct agreements. This question requires special consideration.

One can agree with the suggestion of Ye. F. Tikhomirov concerning the need to create a reserve of general purpose rolling stock at automotive transportation enterprises in order to carry out rush shipments and, correspondingly, increased rates for rush work, although this problem is partially resolved in existing rates as well. There is some doubt about the justification of the author's proposals concerning seasonal increases in rates because of the withdrawal of the automotive fleet of the ministries of automotive transportation for shipping agricultural products during the period from May through November. Many industrial enterprises and other organizations help agriculture. And the seasonal increase in prices because of this will exert a negative influence on the financial condition of the enterprises.

Ye. F. Tikhomirov discusses the need to change the rate so as to contribute to the development of general purpose transportation. But if in reality industrial enterprises have such an annual savings from the replacement of general purpose automotive transportation with their own, as is asserted in the article, if it is more "competitive" when the enterprises and departments determine the effectiveness of capital investments, and it also has a number of other advantages indicated by the author, there is no need for the author's suggestions concerning the development of general purpose transportation.

In reality general purpose transportation is considerably more economical, as one can see, in particular, from the table.

The redistribution of resources in favor of general purpose transportation will be promoted by the principle of differentiation depending on the sizes of the batches of cargo that are intended for one-time delivery to one address, which is being used for the first time in constructing rates. Taking into account the fact that labor productivity in general purpose automotive transportation is 35 percent higher, and that the indicators of the utilization of

departmental transportation are on the whole significantly lower, it is necessary to take special measures (increasing capital investments in the development of automotive transportation, creating a network of highways with improved pavement, improving methods of organizational and economic administration, and so forth) which contribute to the development of general purpose transportation. Yet now it handles only one-third of the cargo turnover of automotive shipments and its proportion in the automotive fleet is not increasing, but decreasing.

Table. Cost of Shipments by Departmental Transportation, % of Cost of Shipments With General Purpose Transportation

Ministries	
General purpose automotive transportation	100
Ministry of Chemical Machine Building	140
Ministry of Instrument Making, Control Systems and Automation Equipment	169
Ministry of Automotive Transport	110
Ministry of Agricultural Machine Building	157
Ministry of the Machine Tool and Tool Building Industry	146
Ministry of Heavy Machine Building	158
Ministry of the Chemical Industry	184
Ministry of Construction, Road and Municipal Machine Building	149
Ministry of Light and the Food Industry	164
Ministry of the Electrical Equipment Industry	164

The new rates introduced as of 1 January 1982 are better constructed from the standpoint of the distribution of profit obtained per unit of time when making shipments over various distances. The rates for short distances (up to 200 kilometers), for which shipments are not very profitable or carried out at a loss, have been increased along with a reduction in the rates for distances of more than 200 kilometers (by approximately 15 percent) for which shipments have a profitability of 40-50 percent. These rate measures contribute to changing over from rail to automotive transportation of short hauls and rush shipments, especially if, in keeping with the suggestion of the corresponding member of the USSR Academy of Sciences, P. G. Bunich, measures are developed for transportation organizations to encourage evaluation indicators in the form of percentage normatives of the sum of the calculated profit. And although a simple comparison of the rates of automotive transportation with the rates of rail and river transportation shows that they are considerably higher than the latter, this does not negate the high effectiveness of using automotive transportation over distances from 200-300 kilometers, since the calculation must include a reduction in expenditures on transshipment, for internal circulating capital of the enterprises, the cargo mass on route, the delivery times and other indicators that characterize each specific shipment.

Other changes in the new price list are directed toward improving the quality of shipments and increasing their effectiveness. Increments have been refined for shipments with specialized transportation, which will contribute to the development of these kinds of shipments. Fines have been increased for cargo dispatchers and recipients for retaining trailers in excess of the established norms. Rebates have been established in the amount of 10 percent for complete utilization by the dispatcher of the cargo capacities (16 tons and more) of the truck train in interurban shipments, which creates stimuli for increasing the promptness and economy of deliveries.

But it should be emphasized that all these rate measures will not produce the proper effect if the existing situation with respect to the development of road management and the construction of highways remains. Now there are not even primary economic bases in road management. Roads are not recognized as fixed capital of the branch, and for them there are no annual payment norms, norms for amortization deductions and so forth. Road management is financed from state budget allocations and two-percent deductions from incomes of automotive transportation and funds and resources taken from other branches. The arrears in the growth of the highway system because of augmenting the automotive fleet, and the exacerbation of internal technical and economic disproportions in the automotive and road complex require the development and introduction of measures for accounting for the "road component" (so far there is no generally recognized method of accounting for this) in accounting for the "road component" in the rates of automotive transportation. Calculations made by the GiprodorNII showed that actual road expenditures going only for direct reproduction of roads (all kinds of repair and maintenance of the existing network of roads) should amount to from 4 to 12 percent of the full cost of cargo shipments. According to calculations of the Institute of Complex Transportation Problems and the Central Scientific Research Institute of Automobiles and Automobile Engines, the "road component" increases from 1 to 40 percent of the full cost of shipments with a change in the category of the road from the first to the fifth, amounting to an average of 5-15 percent (for the third category of roads).

Thus in the search for ways to increase the efficiency and quality of the work of automotive transportation, in addition to improving planning and administration, one cannot underestimate the significance of the autonomous financing mechanism and price setting. It is precisely this goal that was set as a task for further improving the newly introduced system of rates for shipping cargos by automotive transportation.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

ADVANTAGES OF USING FLEXTIME REVIEWED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 137-140

[Article by G. S. Pin'kovskiy, candidate of technical sciences, director of the Dneprogiproshakht state planning institute, Yu. T. Razumnyy, candidate of technical sciences, institute division chief, and V. P. Sichkarchuk, engineer-sociologist: "We Assert: Flexible Conditions for Labor and Recreation are Convenient For All"]

[Text] The discussion started by the magazine concerning a flexible schedule has aroused a certain amount of interest among managers of scientific and planning institutes of our city. And this is no accident. For the third year now there has been a dispute among this category of workers as to whether it is worthwhile to follow the example of Dneprogiproshakht institute and change over to a flexible schedule (overlapping working time). Having applied it as an experiment at the end of 1978, we are proving the attitudinal expediency and economic advantage of the innovation. Let us discuss the facts.

In the first place, during the three years of operation with the flexible schedule there have only been a few cases of violation of labor discipline in the institute, while in 1977 alone, because of tardiness and absenteeism with the permission of the administration, 4,325 hours of working time were lost. In the second place, there has been a significant improvement in the attitudinal and psychological climate, and labor productivity has increased by 2.5 percent. Of the 86 plans that were drawn up in 1979-1981, 44 were released with excellent quality. People are glad to go to work, they do not run at breakneck speed at quitting time, and they do not have to hang on the handrails of an overfull trolley. The new conditions for labor and recreation are especially convenient for correspondence and evening school students and for working women.

The sliding schedule operates on the basis of an automated system of accounting and control of working time. Each worker is given a card with a coded table number. With the help of a photographic counting device one establishes when the worker enters and leaves the building. Working time is counted in two stages: registration and processing of information, which are separate in time and are not functionally related. In the first stage on a punch tape one registers the table number and time of entry or exit. The information

about the code on the card from the counting devices goes into a counting block where it is checked for reliability. Then a signal is entered in the memory block. The system is turned on or off, and workers also give signal notification during the course of the working day (dinner break) with a given program automatically. In the second stage a summary account of the time is given. Incomplete working time is removed upon instructions from the division chiefs. Operational information is sorted according to table numbers and time, and the summary accounts of working time are printed for workers in the various departments.

The time variable is determined within two and a half hours at the beginning and the end of the working day. Additionally, the load on urban transportation was taken into account, which was studied with the help of questionnaires and time and motion studies. The working day of the workers consists of a "firm" part (from 10 a.m. to 3 p.m.), when everyone must be in his working position, and a "flexible" part when one can choose the time of arrival at work and departure from it. An overall amount of time worked is mandatory--41 hours a week. Lost time can be made up for depending on the load of the division and other objective conditions which are determined by the chief. If necessary, he also issues a card for local business trips, with which the machine accounts for the time when an individual is outside the institute on business matters. If necessary the workers (if they do not manage to visit a polyclinic, send a child to a nursery or visit a school to talk to teachers during the allotted flexible time) receive from the chief permission to utilize the "firm."

In the event of abuse of the sliding schedule (there were only 9 cases of this during the three years) the administration retains the right to stop the "flexibility" of a specific worker and establish a "firm" schedule for him. These cases are regarded as punishment.

The institute has conducted three sociological research projects concerning the effectiveness of the sliding schedule. During the first, which was conducted in December 1978, they revealed the opinion about the work schedule that was introduced, mainly about the beginning and end of the working day, and the opinion about the organization of the meal break. Later they attempted to determine the degree of effectiveness of the new schedule and its influence on the microclimate in the collective. Seventy percent of the workers participated in the questionnaire. Their unanimous conclusion was that the new schedule for the day was an interesting thing which had a positive influence on the mood, on the quality of the work and on labor productivity. More than half of the questionnaire contained specific suggestions regarding improvement of the organization of work of the institute's collective.

An analysis of the responses shows that the collective is satisfied with the new system of automated accounting for working time. All 100 percent of those questioned keep within the allotted time for arrival at work and think that the spread of two and a half hours at each end of the day is optimal. While before the introduction of the sliding schedule in the institute there were cases (and frequent) of tardiness, and these caused feelings of nervousness and concern, by the time of the research they had disappeared.

Three-fourths of those questioned go to work on relatively uncrowded intra-urban transportation and therefore the flexible schedule contributes to reducing the load on transportation during "peak" hours. Its extensive application can be an effective means of reducing the load on intraurban transportation. But the most important thing (the overwhelming majority of respondents agreed with this viewpoint) is that people are not nervous about late transportation, which finally has a positive effect on the creative process.

It is typical that with the changeover to the new form of labor organization there were fewer so-called "morning" losses of time. The former reason for these was the overall time required to assume the work rhythm. This no longer happens. A worker who has come late must either enter into the established rhythm or not disturb it. Instead of an orientation toward "spending time" at work, an orientation toward performing work has appeared. This contributes to creating businesslike circumstances.

Of course the implementation of the new schedule for the day requires a great deal of composure and a businesslike attitude on the part of the managers as well. First of all this pertains to improving planning and control, organizing work and improving working conditions. The clearness of the assignment issued by the division chief or head specialist makes it possible for them to arrive at a more profound evaluation of the activity of their subordinates.

Naturally, the innovation introduced in our institute has attracted attention from the public. Colleagues come to us and representatives of higher organizations visit us. We agree with them that not everything is unquestionable in the sliding schedule. But the purpose of the experiment is to select the optimal working conditions. The need to apply new conditions for labor was pointed out in the decisions of the 26th Party Congress. In the decree of the CPSU Central Committee and the USSR Council of Ministers concerning increasing the assistance to families with children points out the immediate need to solve these problems not only in planning and scientific institutions, but also at enterprises. Obviously, the USSR State Committee for Labor and Social Problems must issue the corresponding recommendations so as to legitimize this new and important matter.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

FLEXTIME AIDS IN STRENGTHENING LABOR DISCIPLINE

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 140-141

[Article by I. V. Unzhakov, chief of sector for scientific organization of labor, Orgproyekttsement (Chelyabinsk): "Flexible Schedule Strengthens Discipline"]

[Text] One still frequently hears that the introduction of flexible work schedules or, more precisely, variable working time has a negative effect on labor discipline. They say, give people their freedom and they will stop working at all.

Experience shows that this is not at all the case.

When consulting at one cement plant I suggested introducing flexible working time. The most prepared departments were selected for the experiment--the labor and wages department and the economic planning department. As soon as the instructions pertaining to these subdivisions were issued, a pilgrimage from others began. Soon all the other departments of the plant administration were changed over to the new conditions for labor and recreation.

At first the benefits of flexible working time were utilized timidly, especially in places where the managers were demanding. But then all of the workers of the bookkeeping division began to arrive at the beginning of the shift at 6:30. The explanation for this unanimous decision was quickly found: it is more convenient to begin and end the working day at the same time as relatives employed in the plants shops do.

Within two weeks there was an extraordinary situation: three of the eight workers of the material and technical supply division rebelled against the new policy. A certain amount of time was needed to explain the reasons. But the explanation was quite simple. The chief of the materials and equipment supply department is a good person. With the "firm" schedule for work and recreation it was easy to ask him for time off, and without making it up subsequently. The rebels were the least disciplined. The new conditions gave them the opportunity of leaving work without asking, but they had to make it up. This is what they did not like. Obviously the flexible working time has become a means of strengthening labor discipline.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

EMPLOYMENT OF RETIREES IN EAST EUROPE HELPS OFFSET DECLINING BIRTH RATES,
LABOR FORCES

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in
Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 142-153

[Article by T. V. Zhilkina, Institute of Economics of the World Socialist
System of the USSR Academy of Sciences (Moscow): "Enlisting Pensioners Into
Public Production"]

[Text] Since the middle of the 1950's in European socialist countries there
has been a gradual decline of the birth rate. At the same time the death rate
continues to decrease and the average life span is increasing. The proportion
of older people is growing.

In Poland the number of residents younger than 29 years of age is 51.9 percent
of the country's population. Romania is close to this figure. In Bulgaria,
Hungary and Czechoslovakia the average population is older. In the GDR the
age group older than 60 equals 22 percent, and the number of people 65 years
of age and older reaches 17 percent--this is the highest indicator in the
world. The proportion of pensioners in the overall population amounted to
the following in 1980: Bulgaria--22.2 percent; Hungary--19.4 percent; the
GDR--21.4 percent; Poland--12.7 percent; Romania--7.2 percent; and Czechoslovakia
--21.3 percent.

The aging of the population requires further development of the social security
system. Nationwide concern for labor veterans and disabled people is a typical
feature of the socialist society.

More than 90 percent of the population of working age in the CEMA countries are
now engaged in public production and in training. The degree of employment is
approaching the maximum possible level. The possibilities of raising the level
of employment have been practically exhausted in certain countries, and other
countries are approaching this level.

In 1981-1990 the average annual rates of growth of the population of working
age will be appreciably less than in the preceding ten years: in Bulgaria--
almost two-fifths of the previous level, and in Hungary the number of population
of working age will remain practically unchanged. In the GDR the average
annual increase will be less than 2.3-fold, Poland--4.6-fold, Romania--1.1-fold

and Czechoslovakia--1.2-fold. The population older than 65 years in 1990 will amount to the following: Bulgaria--13.8 percent, Hungary--12.3 percent, the GDR--11.6 percent, Poland--10.6 percent, Romania--10.8 percent and Czechoslovakia--17.7 percent of the entire population. Thus since the middle of the 1970's the majority of the CEMA countries have been experiencing a shortage of young labor force.

How Crucial the Problem Is

The increased shortage of labor resources and the increased proportion of old age pensioners increases the economic significance of enlisting people of pension age into public production. Of no less significance is the social aspect of this problem. Pensioners constitute a significant reserve of labor force which not only does not require training but, conversely has a great deal of experience, high mastery and a certain level of skills. With improved quality of medical service and increased life spans an ever increasing number of pensioners are ready to continue their labor activity.

The labor of pensioners who wish to work not only helps to utilize the society's labor resources more fully. It is known that continuing the work time of pension age people and satisfaction with the results of labor, as a rule, contribute to prolonging the ability to work and the age of elderly people, supports a feeling of confidence in them, and prevents a feeling of being alienated and unnecessary to the society. Socio-hygienic research conducted in various countries shows the positive role of work as a factor that contributes to active old age. The health of pensioners who have stopped working deteriorates and there is a higher incidence of illness and death than with people of pension age who have not left socially useful work so abruptly. But the physical capabilities of people in the older age groups are somewhat limited and they cannot always be employed in places where they are needed. Therefore the employment of pensioners in branches with great physical and psychological stress is appreciably less than in branches where working conditions are lighter. Many pensioners work in domestic services, housing and municipal services, trade, public catering and agriculture.

There are already certain principles that are common to all the socialist countries:

voluntary participation of pensioners in labor to the extent that they are able, and not one of the countries has established work times after the people have reached pension age or limited the age of the pensioners;

the pensioners themselves decide whether they will work and for how long;

in the majority of the countries there are various measures directed toward encouraging the labor activity of pensioners;

the working pensioner is given the opportunity of selecting a variant of the pension that is favorable for him or part of it during the work period, or delaying it;

the state legally regulates the conditions and the system for the work of pensioners;

in a number of countries a special list of jobs has been established for which they hire mainly pensioners and invalids.

Encouraging the Employment of Pensioners

In all cases the labor of pensioners raises their standard of living. The enlistment of pensioners in labor, particularly old age pensioners, is envisioned by the socialist system of social security which allows a transfer to a pension even when one is of working age.

The main form of material incentives for working pensioners is the payment of the full pension and the corresponding wages.

The state can thus regulate the distribution of the labor force among the various branches, granting privileges to working pensioners in one sphere of the national economy or another, depending on the availability of labor resources in it. Depending on the needs of the national economy, changes are made in the list of branches and regions where pensioners are given the right to receive a full pension plus earnings. In Bulgaria, Hungary, Romania and Czechoslovakia the pension and the wages are paid fully to people of pension age employed in industry, agriculture, construction and certain branches of the sphere of services. Here, as a rule, a maximum amount of pension and wages is established. In Bulgaria it amounts to 100 leva of pension per month under the condition that the wages do not exceed 120 leva, and in Hungary (for employees)--9,000 forints a year. Working pensioners receive all of their pension in Poland if the wages do not exceed 24,000 zlotys a year, and in Czechoslovakia--1,100 krona a month. The maximum rate is relatively high, which serves as an effective material stimulus for continuing labor activity.

The peculiarity of the GDR as compared to other European socialist countries is that in any branch of the national economy workers who have reached pension age and continue to work receive an old age pension in the full amount in addition to wages, regardless of the amount. This is because the pension age in the GDR is fairly high: 65 years for men and 60 for women.

The practice of recalculating pensions taking into account additional service and higher earnings which the workers receive after acquiring the pension also serves as a stimulus for enlisting pensioners in labor activity. Every year after a person has gone onto a pension "translates" a certain part of the earnings into the pension: in the majority of countries--1 percent (more rarely 1.5 percent) of the earnings are multiplied by the number of years worked. The pensioner who continues to work increases his pension after each year of work by 1-1.5 percent. This practice exists in Bulgaria, Hungary and Romania.

Certain socialist countries apply the method of the so-called "delayed" pension. With this form of material incentive the pension is increased for each year of work after it is allotted under the condition that the pensioner does not receive it during the work period. In Bulgaria for each year of work the pension is increased by 6 percent of the wages, in Hungary for workers in physical labor for each year worked after the pension--by 7 percent, and mental

labor--by 3.4 percent. In Hungary the overall sum of pensions for workers can reach 95 percent of the average earnings and 90 percent for workers in mental labor. Since 1970 members and employees of agricultural cooperatives have had the right to an incentive pension increment. In Czechoslovakia for each year of work the pension is increased by 7 percent of the average monthly earnings. Working pensioners also have social rights just as the other workers do: vacation and the opportunity to acquire passes for recreation and therapy.

Table. Statistical Analysis Conducted by Czechoslovakian SSR Gosplan Worker, V. Seydl, Shows that Amounts of Pensions Almost Do Not Affect the Economic Activity of the Pensioners

Amount of pension paid, krona	Men		Women	
	Structure of working pensioners according to age, % of total	Overall number of pensioners, %	Structure of working pensioners according to age, % of total	Overall number of pensioners, %
Up to 699	2.0	7.5	19.6	41.9
700-1099	19.8	29.6	46.9	39.7
1100-1499	46.3	39.4	27.3	15.9
1500-1999	25.6	19.1	5.7	2.3
2000 and higher	6.3	4.4	0.5	0.2

An important stimulus for enlisting pensioners in labor is the possibility of working an incomplete work day or an incomplete work week. The pension is then paid in full under the following conditions:

in Bulgaria--incomplete working day;

in Hungary--for having worked no more than 840 hours a year (for certain occupations the time is extended to 1,260 hours a year);

in Poland--incomplete work day or temporary work;

in Romania--no more than 4 months a year or for half of the working time;

in Czechoslovakia--no more than 180 working days a year as a worker in physical labor or 120 working days as an employee. For the leading branches of the national economy the right to a complete pension is retained when one works for 240 days during the year.

Preference is given to this form because for a number of years the pensioner can regulate the duration of his labor activity in keeping with his capabilities. This form of labor activity makes it possible for the pensioner to retain

contact with the enterprise where he previously worked. Investigations conducted in 1977 in Czechoslovakia show that more than 70 percent of the working pensioners continue their labor activity after receiving a pension in the same organization and in the same capacity.

The method of working at home is utilized extensively. Work at home provides for employment in various specialities. It is especially widespread in those industries where manual labor or uncomplicated equipment are used. Pensioners work under household conditions, semimanufactured products are prepared at small production facilities, and raw material is distributed among the home workers, there is a warehouse for the prepared products and so forth. As a rule, the delivery of raw materials and also the selection of final products are done at home with transportation from the enterprise. The possibility of working at home is offered extensively in Hungary, the GDR, Bulgaria and Poland.

From all that has been said it is obvious that the working pensioner, through various increments or recalculation of pensions, can increase it considerably, but the sum of the pension with the increments and the recalculation cannot exceed certain limits and is related to the earnings from which the pension has been calculated. The limits are established at a fairly high level: 100 percent in Bulgaria, 95 percent in Poland and Romania and 90-95 percent in Hungary. In Czechoslovakia the limit is established at 3,000 krona a month.

The Effectiveness of the Stimuli

The most widespread opinion is that it is mainly people who have received low pensions who are interested in continuing labor activity. But the structure of the working pensioners in terms of the amount of the pensions is essentially identical to the structure of their overall number. A selective comparison even shows a certain prevalence of economic activity among pensioners with large pensions.

Let us look at the situation of pensioners in Hungary and Czechoslovakia in greater detail.

In Hungary there are more than 2 million pensioners. Each year almost 400,000 of them are employed, the majority with a partial working day. More than 330,000 working pensioners are workers and employees and about 50,000 work in agricultural production cooperatives. Three-fourths of the pensioners do physical labor while the remainder are employed in mental labor or work in the sphere of services.

On an average for 1978 each pensioner worked 1,020 hours, that is, 5.2 months. The overall earnings of the pensioners who worked part-time corresponded to the annual labor of about 170,000 workers. The most active of the working pensioners were 60-69 years of age. They comprise half of all the working pensioners. The proportion of pensioners older than 70 is much smaller. Practice shows that pensioners prefer not to take advantage of incentive increments, but to work a certain number of hours a year.

The reduction of the shortage of labor resources in Hungary changed the attitude toward pensioners as an additional reserve of labor force. While in 1972 Hungarian specialists calculated the optimal employment of pensioners throughout a full day and actively utilized subsidies for stimulation, now there is no longer a need for this.

Since 1 January 1980 the labor of pensioners in Hungary depends more closely on the needs of the national economy. In the opinion of the state secretary of the Hungarian Ministry of Labor, A. Rats, the need for physical labor will continue in the future and therefore it will be possible even to increase their employment. Employment of pensioners in the nonindustrial sphere should be decreased as compared to preceding years. The majority of pensioners (mainly workers in physical labor) are not affected by these changes. The new conditions have limited the possibility for pensioners employed in nonphysical labor to obtain an income. Pensions are paid to them until the earnings for the calendar year reach 30,000 forints. The pension and wages together should not exceed 10,000 forints a month. If the pension and the wages have reached this limit, the pensioner can no longer be employed even within the limits of 840 hours a year.

In 1980 the main administration for social policy of the Hungarian Ministry of Labor was given permission to open a bureau as an experiment for labor placement of pensioners in one of the regions of Budapest. The success surpassed all expectations. Applications were made to the bureau by pensioners in positions of head bookkeepers, leading engineers, workers of local soviets and so forth, who felt good and wanted to be useful to society. They wanted to change their work so as not to burden themselves with a lot of responsibility in spite of losses of earnings. It became clear that these proposals were made not only by people of pension age, but also by younger ones with limited ability to work. At the same time the experiment revealed the lack of correspondence between the positions offered to pensioners and their desires, that is, there was revealed a lack of correspondence between supply and demand.

In Czechoslovakia in 1977 there were 651,000 people of pension age who were working, and 585,000 of these pensioners received a pension (or part of one) along with their wages, and 35,000 worked without receiving a pension (they were increasing the future amount of it), while 35,000 were working pensioners who were either paid a pension because of the loss of the breadwinner or a pension with incomplete labor tenure. During the past 11 years in Czechoslovakia, while the number of employed people of pension age has doubled, their economic activity has increased by almost 90 percent. But after the rapid growth in 1966-1975, there has been a certain decline. This was brought about by the fact that since 1 January 1976 in Czechoslovakia a new law has been in effect concerning social security, which improved the standard of living of approximately 3 million pensioners. Improvement of the pension system not only improved the material support, but also affected the employment of people of pension age. When developing the law the state tried to considerably motivate workers who upon reaching pension age continued to work without receiving pensions. But the proportion of pensioners taking advantage of this form of incentive is decreasing.

The attractiveness of work throughout the working year decreased significantly for pensioners and there was a larger number of people who worked only part of the year under the condition of obtaining a full pension and earnings. The desire to increase the sum of the future pension by working without receiving it after reaching pension age decreased. This tendency shows that on the whole pensioners regard the level of the pensions as satisfactory.

Preparing for the Future

Despite the privileges existing in European countries, the number of working pensioners is small and their role in the balance of labor resources is not great. Only in Czechoslovakia and the GDR can pensioners be regarded as a significant reserve of labor force.

In terms of employment of pensioners in the national economy, Czechoslovakia occupies first place among the CEMA countries. The reduction in the proportion of working pensioners in the overall structure of employed people during the period of 1966-1978 was not significantly reflected in its stability and remained at the level of 8.1-8.2 percent. There is a large number of working pensioners in the GDR as well. In 1976 every fifth pensioner was working and the proportion of pensioners in the overall number of the employed population amounted to 7.6 percent. In 1979 in the GDR there were 600,000 working pensioners, who comprised 7.3 percent of the overall number of employed people. This was brought about by the peculiarities of the balance of labor resources in the GDR where, within inadequate growth of the young labor force, a significant role is played by the labor force of the older age groups.

In Hungary the number of working pensioners is decreasing. During 1961-1980 it decreased from 644,100 to 224,600, and their proportion in the overall structure of employed people in 1979 amounted to 4.6 percent as compared to 13.3 percent in 1960. In Poland during the period of 1965-1977 the proportion of working pensioners in the age group of 60-64 years decreased sharply--from 3.3 percent to 1.9 percent, and in the age group of 65 years and older it increased insignificantly--from 1.2 percent to 1.4 percent.

Consequently, practice shows that the forms of stimulation that are being applied are still not completely effective. They are oriented more toward preventing a reduction of the proportion of people of pension age among employed people than toward increasing their numbers.

A reduction of the number of working pensioners is a natural process. It is explained by the higher level of social security and expansion of its scope, and also the complication of production conditions and the increasing requirements made on workers. In order to successfully enlist people of pension age into public production it is necessary, in the opinion of economists of the CEMA countries, to have a complex of measures.

Socio-economic measures:

improvement of the system of pensions and the establishment of a closer dependency between pension and the amount of earnings, labor tenure and other factors;

the search for better forms and methods of labor organization that take into account the capabilities and interests of elderly people and contribute to bringing them into the labor process (partial working days, transfer from piece-rate payment to time-rate payment or to a working position that corresponds to the age, with reduced production requirements and expansion of the network of work in the home);

determination of a group of professions and positions depending on the needs of the national economy and the degree of shortage of labor resources with simultaneous payment of pensions and earnings. Here it is possible to periodically revise the list of branches and regions;

analysis and accounting by planning and legal agencies of existing and future prospects for the utilization of pensioners in the labor process and the creation of the corresponding working conditions;

the development of extensive research on this subject on the basis of creating a unified information center where all information about pensioners would be concentrated (the practice of Czechoslovakia).

Administrative and legal measures:

the introduction of a legal and organizational system for labor placement of pensioners. The experience of Hungary shows the expediency of creating intermediate centers between the pensioners and organizations that are interested in their labor;

the creation of special enterprises that use the labor of pensioners and people with limited ability to work;

the establishment of a special list of jobs for which pensioners can mainly be used;

the prohibition of pensioners from working at heavy and overtime jobs and also at night.

Moral and psychological measures and benefits:

prompt orientation of the workers for continuing their labor activity at pension age. Individual consideration of each worker who goes on a pension;

the creation for pensioners working under the same working conditions with workers of working age additional benefits and advantages (granting regular vacation at the desired time, additional unpaid vacation, advantages in providing sanatorium and health resort treatment, material assistance and so forth);

improvement of housing and domestic conditions for the pensioner.

As the standard of living rises the significance of material incentives for continuing labor activity by people who have gone beyond working age will decrease and the role of the moral incentive will increase. This factor should be utilized fully.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

WESTERN TRADE IN LICENSES, NEW TECHNOLOGY DISCUSSED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 159-172

[Article by V. Ye. Demidov, scientific editor of the magazine SOVETSKIY EKSPORT (Moscow): "What is the Sense in Selling Secrets?"]

[Text] It is not important to the modern merchant what he trades in, whether it be consumer goods or industrial machines and equipment, the word "innovation" has special significance. He understands well the sentence from the book "The Higher School of Management": "It is necessary to establish firmly that new goods are of decisive significance for the flourishing of the firm."

Indeed, a new item which is more valuable in terms of its consumer qualities (that is, satisfies new demands or is intended for a new group of consumers) is sold at a higher price and, as a rule, has a larger sales market than an older item. According to American data, the growth of the sales volume of firms that produce innovations exceeds the growth rates of the country's gross national product 5-10-fold. A new product almost automatically makes the producer and the salesmen leaders, and not only in domestic, but also in foreign trade. The five branches of U.S. industry in which most money is spent on the development of new goods--aviation missile-space, electronics, electrical equipment, chemical, instrument building and general machine building--provide 72 percent of the exports of commodities of the processing industry.

To create an innovation means above all to make immense expenditures. The product that is successful on the market and allows the firm to develop and produce more new goods is the top of the pyramid, at whose basis lies approximately 500 suggestions concerning the production of new products. The initial analysis weeds out four-fifths of the new ideas, and subsequently more than nine-tenths of those remaining do not withstand the rigid requirements of mass production or the results of a developed market analysis. As a result, of the aforementioned 500 only 8 goods will reach the stage of industrial output, and only 1 will deserve to be widely recognized by the consumers. From several thousand to several million dollars are spent on the development and production of this product; in exceptional cases expenditures even reach the billions: the Boeing 747--0.75 billion dollars, the Concord--more than 2 billion dollars. From 15 to 30 percent of this money is spent on research and experiments.

The farther it goes, the more critical to most of the industrial firms is the question: to invest immense, ever increasing amounts of money on the development of new goods or to take advantage of the results of foreign research and development? And the farther it goes the more frequently businessmen are inclined toward the second solution, especially because Japan serves as an example for them--a country whose "economic miracle" contained nothing miraculous, but was largely explained by extensive and skillful purchases of licenses for foreign inventions and technological processes.

During the past 30 years Japanese companies have acquired more than 33,000 licenses. Electronics, energy, electrical equipment, metal processing, chemistry, pulp and paper, the bearing industry, petrochemistry and the output of synthetic materials--a multitude of branches of Japanese industries have taken leading positions because of this avalanche of innovations. The average time period for developing a new product is 66 months, and the organization of series production takes another 18-24 months. The "license injection" means that the firms, when they acquire each license, save an average of 52 months and almost 13 million dollars which are necessary for experiments. Of course, both the payments for the purchase of the licenses and the remuneration for utilizing them, that is, the percentage stipulated by the contract of the sum obtained annually because of the sale of the commodity produced under the license, are fairly high. But they are not so high as to make this license trade disadvantageous for the purchaser. Let us recall an important figure: In Japan again one dollar spent on license payments saves 16 dollars which would otherwise have to be spent on research work!

Japanese industry developed especially rapidly during the 1960's: the average rate of increase in the output of machine building products was 27.5 percent at that time, and the electronic and electrical equipment branch set a kind of record, having achieved in 1968 a 35-percent increase. "The remarkable progress in the development of the Japanese economy after World War II was due mainly to the utilization of technology imported from the Western countries," wrote the magazine ORIENTAL ECONOMIST in 1979. Having begun, for example, in 1960 to produce electronic computers, in 1964 Japanese industrialists concluded license agreements with the American Company "International Business Machines," which had developed electronic computers of the third generation and two years later began to mass produce them. From 1960 through 1969 the volume of sales in this branch increased from 7 to 640 million dollars, and during 1966-1969 it increased five-fold. In our day the Japanese use licenses to produce 10 percent of the entire industrial output, and in individual branches--30 percent.

It would be incorrect, however, to think that the acquisition of licenses proceeded randomly in Japan, on the principle of "the more the better." In fact during the 1950's and the first half of the 1960's it was typical for Japan to have strict governmental regulation of this process. Patent services of private companies sought out innovations and councils of directors decided whether the transactions would be advantageous. Then bureaucrats from the ministries of foreign trade, finances and foreign affairs decided whether it would be worthwhile to bring the question up at the meeting of the council for foreign capital investments. The council decided whether or not Japan had the same technologies, whether something similar was not being prepared in the laboratories of other companies of the country, and how promising the foreign

solution was for extensive application. Only at the end of the 1960's and especially at the beginning of the 1970's, when Japanese industry was firmly on its feet and the merchants had experience in utilizing licenses did the limitations gradually begin to be removed and, finally, were completely abolished. No small role here was played by the fact that Japan began to be transformed from an importer of licenses to an exporter of them. Their own research became the basis of pioneering innovations which the companies sent to the market, and licenses were purchased not so much for absolute innovations as for technologies which make it possible to improve items that are produced.

Japan took over first place in capitalist international trade in ships, television equipment, radio technical items, tape recorders, fabrics and porcelain dishware, and took over second place in the exporting of electronic equipment, motor vehicles, synthetic fibers and synthetic rubber, and third place in the deliveries to the foreign market of power electrical equipment, machines for textile combines, and also railroad cars and industrial and agricultural tractors. Japanese color television sets threaten the existence of American television plants which produce similar products. The countries of the Common Market are introducing limitations on deliveries of Japanese bearings, and Italian motor bike companies have forced the government to take measures against unimpeded invasion of Hondas and Kawasakis

The advantages of importing licenses are undoubted: the volume of production in terms of commodities that are produced turns out to be 25 times greater than the volume of license payments! New technologies provide 40 percent of the increase in labor productivity while increased qualifications of workers provide only 15 percent. To break away from former backwardness and overcome arrears of time--this is the most important goal of purchasing licenses. Another reason is the impossibility of bypassing a foreign patent even if one's own research base makes it possible to achieve fairly good results. Striving to monopolize the market, many companies burden their inventions with such patent protection that it is practically impossible to get through it. Thus the West German firms Wankel and Audi-NSU-Auto Union, having developed the Wankel rotary engine, obtained 7 basic patents for it in the FRG and thus "covered" all basic scientific and design decisions and, with the help of 57 other patents, provided themselves with legal protection for all possible modifications and improvements. They obtained another 579 patents for the Wankel engine abroad, and more than 1,400 more of them were taken out by West German inventors in conjunction with more than 40 purchasers of licenses for this engine--by the largest automotive construction and motor construction companies of the leading capitalist countries of the world. To juxtapose something serious to such a gigantic block of patents is so difficult that industrial workers preferred to require a license rather than try to find something of their own. It is no accident that among the purchasers were such well-known firms as Rolls-Royce, Daimler Benz, Ford, General Motors, Nissan Motors and Toyota.

Another reason for purchasing is the desire to save time, which cannot be bought for any money, and immediately, bypassing the long stage of design development, reaching the level of quality that is typical of the products of the firm selling the license. Usually they immediately reach the 93-99 percent level, while attempts to solve the problem independently provide for a level of only 70-80 percent.

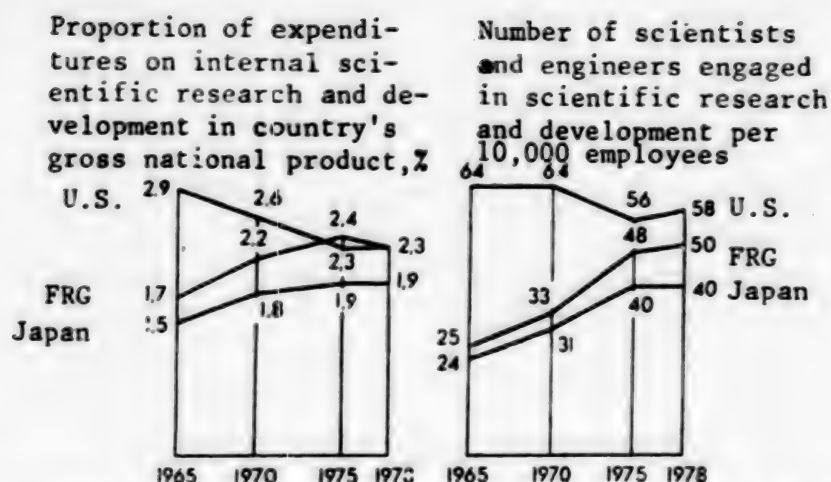


Table. Proportion of Individual Countries That Form Supply and Demand for Licenses on Capitalist Market, %

	Supply			Demand		
	1960	1970	1979	1960	1970	1979
United States	70.8	66.9	62.0	6.3	6.4	6.6
Great Britain	6.4	9.8	10.0	5.6	8.1	7.8
Switzerland	6.8	6.8	9.6	0.8	1.5	2.3
FRG	3.6	3.6	4.9	12.9	9.9	12.5
France	3.1	1.9	3.7	7.5	5.7	7.2
Netherlands	3.7	2.9	2.9	2.7	3.3	4.7
Japan	0.4	1.6	2.9	8.0	11.9	12.3
Italy	1.8	2.2	1.1	4.2	8.8	5.3
Belgium, Luxemburg, Sweden and Spain	3.4	4.3	2.9	6.3	8.7	6.3
Other countries, including developing ones	0.0	0.0	0.0	45.7	35.7	35.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

And so the reasons why the purchaser goes to the international market for licenses is obvious. But still, why sell licenses? After all, the salesman--and this clearer to him than to anybody else--is voluntarily creating his own competition! What is the point in this?

The answer is far from obvious, but it exists, and there is more than one.

The first answer consists in that the sale of licenses is not at all a goal in itself and is not a philanthropic measure. "The sale of licenses to foreign firms is not a voluntary replacement for the export of prepared items, but only a necessary alternative under those conditions when the export of the prepared commodities has become impossible or difficult," wrote the American journal EXPORT TRADE once. A questionnaire of almost 200 West German firms conducted in 1970 showed that two-thirds of the inventions they patented were used exclusively at their own enterprises, and 18 percent were used at their own enterprises and offered as licenses, while only 6 percent were not used for their own needs, but for license trade. This is understandable: after all, profit from invested capital is approximately 10 percent when prepared items are exported and only 3-4 percent when the license is exported.

But why do difficulties arise with exporting products? In the simplest case the reason is the inadequate volume of their own production. The Swedish firm Monarch Kreschent, for example, having developed the technology for manufacturing bodies of boats made of plastic, sold the license for it only because it did not manage to satisfy the developed demand even in its own country.

The protectionist policy of the country's government is frequently an obstacle to exporting items. It decides where shipments are to be made by high custom duties, limitations on sales volumes, and encouragement of import of goods in dismantled form in order to contribute to the development of national industry. In all of these cases the sale of licenses is the only path for the firm that wishes to enter the local market.

Thus at the beginning of the 1970's the West German Farbwerke Hoechst gave a license for a method of producing synthetic fiber, "trevira" to an Australian company "Fiber Makers" because the import quotas for shipment of synthetics to Australia were very small and the income from the license significantly exceeded the possible incomes from the sale of the prepared "trevira". And another West German firm, having sold a license to Pakistan for the production of passenger cars, for three years exported to them metal, upholstery materials, chassis, brake systems and many other things, since it could not sell the prepared cars there.

But even if there were no protectionism, in many cases it is precisely the sale of the license that becomes a convenient pretext for delivering prepared products that are produced by the enterprise of the selling firm which would otherwise be difficult to sell. The commercial advantage from such a transaction--the sale of equipment and raw material necessary for producing the goods for which the given license was sold--sometimes exceeds the license income many fold.

This is precisely the path taken by the West German firm "Micro Box d-r Welt" which granted the Japanese firm Kenon the right to produce equipment for microfilms: It was stipulated in the contract that part of the electronic and optical equipment, whose value reached 50 percent of the price of the equipment, would be delivered from the FRG. And the Japanese firm Sony, having sold the license for radios, television sets and tape recorders in one of the European countries, received for this a little more than a million dollars and for industrial equipment, without which it was impossible to organize production, five and a half million. This is also precisely the way the Japanese Kodzin,

having sold the French firm Pechine-saint-geoben a license for manufacturing polypropylene film, included in the contract a point whereby all plants constructed under the license were to be equipped only with Japanese technical equipment.

Table. Income and Payment Under International License Agreement in Capitalist Countries in 1970, millions of dollars.

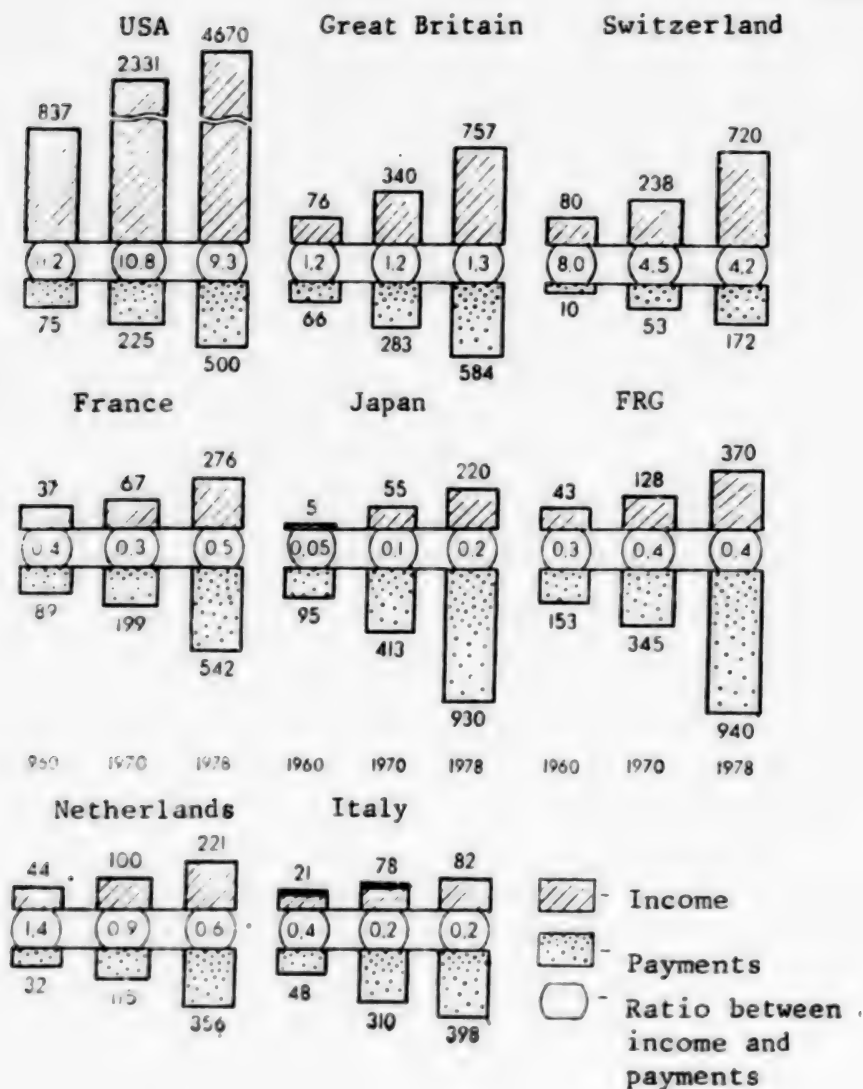


Table. Proportion of Products of Individual Branches of Japanese Industry Produced on the Basis of Foreign Licenses, Value of All Branch Products = 100%.

	1970	1977
General machine building	8	5
Electrotechnical machine building	14	8
Transportation machine building	5	5
Instrument building	6	3
Chemical industry	12	6
Metallurgy and production of metal items	2	1
Textile and food industry	1	1
Other branches of the processing industry	8	8

Table. Branch Structure of Japanese Imports of Class "A" Licenses--With Time Period of Validity of Agreement of More Than a Year and Payments in Foreign Currency

	Unit			% of total		
	1950- 1959	1960- 1969	1970- 1979	1950- 1959	1960- 1969	1970- 1979
Total	1029	5965	16141	100	100	100
General machine building	218	1610	3732	21	27	23
Electrotechnical machine building	217	1133	2702	21	19	17
Transportation machine building	76	303	829	7	5	5
Metallurgy and production of metal items	120	475	790	12	8	5
Chemical industry	198	958	1856	19	16	12
Light industry	130	609	3861	13	10	24
Food industry	1	66	411	0.1	1	3

Frequently licenses which include a point about the sale of technical equipment necessary for assimilation are a convenient method of getting rid of outdated equipment. "Licensing provides us with a market for selling outdated equipment, making it possible to technically re-equip our own enterprises without the inevitable losses related to selling it for scrap," wrote the Vice President of one of the American companies in the WALL STREET JOURNAL. This form of licensing is practiced especially by capitalist firms when dealing with developing countries.

In exactly the same way, with the help of licensing, capitalist firms transfer the production of certain of their own items to countries where the labor force is less expensive, and then purchase the goods that are produced and, after finishing which increases the cost many-fold, sell them in their own name. For example, the machine tool firm American Tool Works sold a license for the production of its own universal machine tools to India, having stipulated its right to acquire a certain proportion of the prepared products. After the machine tools that have been purchased are equipped with American systems of program control they are sold under quite different conditions to consumers who prefer American equipment.

From the experience of companies that actively trade in licenses, export transactions contribute to making large business and social groups of the importing countries familiar with the products of the selling firms as well as their trademarks, and create a certain reputation and a favorable psychological climate. As a result, all this contributes to exporting to these countries other prepared items of the given firm.

A license agreement can contain, for example, a point whereby the purchasing enterprises will produce the commodity only in a limited quantity of types and sizes, and other types and sizes that form the complete range are acquired from the selling firm. This is precisely the way the American Borg Warner corporation increased four-fold the sale of its refrigerators in the United Arab Republic, having granted a South American firm the license for producing refrigerators of the most marketable, but only one size. With this variant of deliveries the foreign firm is relieved of many items of expenditures. The purchaser of the license offers his warehouses and his trade networks, instructs the personnel of the stores himself, bears all expenditures on advertising, and so forth.

An important motive in the sale of licenses is the desire, as it were, to win the race with time. The immense scope of scientific research work throughout the world leads to a situation where new goods rapidly become obsolete. Therefore the salesman prefers to recoup at least part of the expenditures on scientific research and experimental design work through the sale of licenses than to risk losses because of a sudden reduction of sales brought about by the appearance of a competing product.

When granting a license to a firm that is approximately on the same scientific and technical level the seller usually stipulates his right to keep up with all improvements in the design that are made by the purchaser and the results of new scientific research work. It is as though the seller doubled his laboratory and design potential and accelerates the development of new goods on the

basis of existing ones. This kind of cooperation contributes to the development of a completely new practice--the sale of licenses in exchange for other licenses without any kind of remuneration or for extremely small remuneration as compared to the usual practice, and also without license deductions. In 1975-1977 Japanese firms concluded more than 170 of these agreements which pertain to electrical equipment and general machine building as well as chemical technology, and there is a steady tendency toward the growth of such license practice.

The extremely long amounts of time it takes for patent applications to pass through the labyrinth of patent departments leads to a situation where sometimes the innovation which has finally acquired the legal protection ceases to be an innovation. Therefore in the activity of purchasers of licenses there is a marked attraction to the acquisition not of patents, but of applications for patents, which also corresponds with the desires of the sellers. Agreements of this kind already constitute 13 percent of the overall volume of imported licenses acquired by Japanese companies.

The specific object of license agreements is "know-how," that is, technical, commercial and production knowledge and experiments (as a rule, secret) which the purchaser of the license can use when assimilating the products. The importance of "know-how" is shown by the fact that in 1977 alone, of the 1,747 licenses purchased by Japanese firms, only 20 percent were patents, while 30 percent envisioned the transfer of "know-how" along with the patent and 50 percent were exclusively for "know-how." Additionally, the concept of "know-how" has recently begun to include organization and administrative discoveries by those who sell the licenses, in which the purchasers, especially Japanese firms, are displaying more and more interest.

The object of a license agreement can also be the trademark of the selling firm, which opens up another possibility of advertising its appearance on the market. The purchaser takes advantage of the familiarity of this trademark for his own purposes: it is as though the halo which surrounds the trademark falls on his products, and thus ensures a favorable attitude on the part of the purchasers of the commodity. It is typical that more than 20 percent of the licenses acquired by Japan stipulate, among other things, the right to use the trademark of the selling firm, and 3 percent of the licenses envision exclusively this right (1977).

But with all this the interrelations between the seller and the purchaser are always the interrelations of a leader and a subordinate. In any license agreement one always finds articles which to one degree or another limit the rights of the purchaser, for example, fully or partially prohibiting the export of commodities produced under the license. The West German firm Taselglas forbade the Japanese [Day-Nippon garasu kogye], which acquired a license for producing glass fibers, to sell them in countries where the West German product already had a stable sales market. Having purchased from the firm AEG-Telefunken a license for the PAL system of color television, the Japanese company Hitachi was obliged to produce only a strictly limited number of such television sets, and not to deliver them to the FRG, and to deliver no more than 70,000 of them annually to European countries, and these with a screen of no more than 42 centimeters on the diagonal. In the event of violation of any of these conditions

the seller has the right to dissolve the agreement immediately and, naturally, demand compensation for losses caused by the violation. This sort of limitation reflects the desire of the seller to reduce the purchaser's ability to compete. Moreover, sometimes the limitation of competition is the main task of foreign licensing, and the license transaction is not significant as a commercial operation.

It is known that many firms that sell licenses regard this kind of trade as the first step toward smothering the purchaser and toward bringing him under the complete control of the seller. This is what West German firms did, for example, in the Netherlands: for the export of the license it was necessary for the purchaser to provide capital and then also help with the purchases of the former partner. Of the 632 firms of the FRG that sold licenses and invested funds in the development of Dutch companies, about half subsequently became full owners of these companies that made the purchases.

In capitalist trade in licenses, as in all other forms of trade, there are the same tendencies: the desire primarily to maximize profit from invested capital and then to monopolize the market or, if worse comes to worse, to divide it up among the strongest, to subordinate small firms to large ones, and to eliminate competitors. The desire for supremacy, however, contributes to the objective process of creating more and more efficient machines and technology. This is precisely the process they have in mind when they speak about the fact that it is necessary to utilize efficiently the possibilities of foreign economic ties for increasing the effectiveness of public production.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

APPLICATION OF WORK TIME BUDGETS ANALYZED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 175-178

[Article by V. A. Artemov, The 5th Scientific Conference "Application of Time Indicators in Socio-Economic Planning of Cities and Villages," (Novosibirsk), 2-4 September 1981*: "Time Budgets and Their Application"]

[Text] On the final day of the conference at the EKO "round table" there was a discussion of "man and time."

"Who has read the story of Daniil Granin about Lyubishchev"--asked one of the speakers. There was unanimity in the hall: "Everyone has read it!" In fact, this story has not gone unnoticed. His hero kept a diary, in other words, a record of his time budget, and so the specialists on methodological developments adopted in the USSR and abroad, half joking and half serious, suggested that they introduce into the recommendations of the conference the question of becoming familiar with Granin's method, that of Lyubishchev, and its dissemination. Closing the conference, the deputy chairman of the organizing committee, V. D. Patrushev (Moscow) emphasized that even if Lyubishchev's time budget were the result of the writer's fantasy, it would still merit a high evaluation.

The results and the tasks in the area of research on time budgets were discussed in the introductory speech by the chairman of the organizing committee, academician T. I. Zaslavskaya, in the report by V. D. Patrushev, in the report by the secretary of the Novosibirsk CPSU Gorkom, M. S. Klobukov and others. Original work in economic and social research was, for example, the research conducted at the end of the 1950's under the leadership of G. A. Prudenskiy, who continued what had been done in the first years of soviet power by academician S. G. Strumilin. Panel research on time is also known in Taganrog

*See the collections "Primeneniye pokazateley vremeni v sotsial'no-ekonomicheskom planirovanii goroda i sela" [The Application of Time Indicators in the Socio-Economic Planning of Cities and Villages], Novosibirsk, 1981, 225 pp; "Obsledovaniye byudzhetoov vremeni zhiteli goroda i sela" [Investigation of Time Budgets of City and Village Residents], Novosibirsk, 1981, 158 pp.

(L. A. Gordon, et al, Moscow), in Rubtsovsk (the author's research) and elsewhere. There is nothing strange in this description of the research: the conditions, way of life and behavior of people change, and scientists must not be left behind.

As was recommended in the draft of conference recommendations that was discussed and adopted, the task of scientists should not be limited to registering time expenditures of people and describing the external reflections of their activity. The main thing is to influence this activity, to regulate it and to control it. Hence, along with studying time budgets there is the application of time indicators in the socio-economic planning of cities and villages. It is not an easy task. In the surveys of B. P. Kutyrev and A. D. Kolobov (both from Novosibirsk) they showed, for example, that the recommendations of researchers who have discovered large and undiminishing losses of working time are not being realized. What are the reasons for this?

For an answer to this question one of the enterprises of Novosibirsk studied the practice of utilizing working time. In individual shops the losses amounted to half of the shift! This is undoubtedly a large amount. A complex of measures was suggested to the shop leaders for filling these "holes" but this was rejected because the plan was still being fulfilled and the workers were provided with earnings. Obviously, with a lack of motivation to fully utilize working time (things are going well with an easy plan) the recommendations of the researcher turned out to be inadequate. It is necessary to take actions to improve the economic mechanism.

One cannot say that there is no progress in the practice of applying time indicators. On the contrary, it is appreciable, but the researchers do not wish to be satisfied with what has been achieved. In many speeches, particularly those of academicians T. I. Zaslavskaya, V. D. Patrushev and I. V. Chernov, the argumentation for the recommendations included numerous cases of useful applied application of the data from the study of budgets and time balances. Thus data from an investigation of the time budgets of city dwellers, which was conducted twice, were reflected in the plans that were drawn up for economic and social development of the city of Rubtsovsk. In order to help planning agencies of the republic, a balance of the total time supply of the population of the Latvian SSR was drawn up (P. Eglite Riga). Time indicators are used by architects and city planners (Ye. P. Kostogarova, Moscow; M. V. Timyashevskaya, Novosibirsk). The dynamics of the conditions for the labor, life and daily existence of the large army of teachers employed in the national economy was studied with the help of time budgets (L. G. Borisova, G. N. Yakovina and V. N. Turchenko, Novosibirsk).

To illustrate the practical application of time indicators one can use the movement toward reducing inefficient expenditures of nonworking time at industrial enterprises of Kuzbass. Discussion of these issues was begun after an order was issued for the Kuzbassugol' combine on 22 September 1960, "On the Introduction of the Recommendations of the Institute of Economics and Organization of Industrial Production of the Siberian Branch of the USSR Academy of Sciences for Reducing Time Expenditures Related to Production." Thus at the Polysayevskaya-2 mine the duration of the production directions

(orders) on the surface was reduced from 20-30 to 3-5 minutes, a strict schedule was introduced for the movement of underground passenger trains, the mine's dining room was re-equipped, and so forth. The advantage for the workers was that they saved an average of about one hour a day.

One cannot but recall the attention which statistical agencies have begun to devote to time indicators. The USSR Central Statistical Administration, in addition to studying consumer budgets, has introduced the study of budgets of time of the population. The dream of S. G. Strumilin is beginning to come true. Long ago he came out in favor of such a combination in order to increase the substantiation of accounting and the administrative influence on the way of life and the behavior of people. This was discussed in the speech at the conference by the chief of the division of statistics of budgets of the population of the USSR Central Statistical Administration, L. I. Dumnov. (Incidentally, data from the studies of time budgets by statistical agencies were published for the first time in the 6th issue of the magazine VESTNIK STATISTIKI for 1981).

It is impossible in a brief account to describe the diversity of conclusions drawn at the conference as to how to improve scientific research on time and increase the practical return from it. It is worthwhile to recall only the increased comprehensiveness of the research and its coordination. This was discussed in a somewhat different way in the report by M. S. Klobukov. The secretary of the party Gorkom, describing the experience of Novosibirsk enterprises for improving labor organization, listed the following approaches: regulation of labor processes (charts for scientific organization of labor), conditions for labor and recreation (flexible working time), and brigade forms. They are all good when used together, but each of them individually does not produce the necessary result. Therefore the proposals of the Institute of Economics and Organization of Industrial Production of the Siberian Branch of the USSR Academy of Sciences and the Western Siberian Branch of the Scientific Organization of Labor discuss the need to raise the question of a system of comprehensive control of labor.

In conclusion--about Lyubishchev's time budget. Here we have in mind that the most colorful and attractive publications about the subject of time have come from the pens of writers and journalists. Obviously the researchers themselves must acquire this ability. This would interest managers and executives, whose time, as we know, is in critically short supply and costly.

COPYRIGHT: Izdatel'stvo, "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

BOOK EVALUATES SALARY DETERMINATION IN LABOR BRIGADES

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 180-183

[Review by V. S. Petukhov, candidate of economic sciences, chief of division for wages of the Western Siberian Branch of the Scientific Research Institute of Labor (Novosibirsk) of the book "Kollektivnyye formy organizatsii i oplaty truda na predpriyatiyakh mashinostroyeniya" /Collective Forms of Organization and Payment for Labor at Machine Building Enterprises/ by N. A. Shtinov, V. G. Kostina and L. I. Rakovich, Moscow, Mashinostroyeniye, 1980]

[Text] At the machine building plant a worker who is a member of the brigade has performed slipshod work, as a result of which the monthly collective earnings of the brigade dropped by 20 rubles. Naturally, the worker should be punished. But how should this be done under the conditions of a brigade which works under a single order and which operates with the system of the known coefficients of labor participation (KTU)? The authors of the new work on questions of payment for collective forms of labor suggest the following method of calculation.

Initial data: The worker has worked 260 norm-hours a month; on an average for the brigade during the given month the earnings for 1 norm-hour amounted to 0.81 rubles. One determines how much one should reduce the norm-hours of the worker who has performed slipshod work as follows: $20 : 0.81 = 25$ norm-hours. The amount of the reduction of the base coefficient will be $20 : 260 = 0.1$. The calculated (base) coefficient of this worker was equal to 1.75, and the actual coefficient for the month in which he performed slipshod work--1.65 ($1.75 - 0.1$). And so justice has triumphed: the worker has caused material harm which has been calculated by a scientific method.

But let us imagine that because of the slipshod work the brigade lost not 20, but 200 rubles, which is quite possible under the conditions of heavy machine building enterprises where they usually process costly large items (the authors are generalizing the experience of precisely this branch). Following the proposed method, the worker who has performed the slipshod work must forfeit more norm-hours than he has worked. How can this be? It is clear that, in the first place, the methods for calculation are not universal. And, in the second place, there is also the following point of view: Since in the brigade it is "one for all and all for one," not only the unconscientious

worker, but the entire brigade is responsible for the slipshod work. We are speaking about the fact that a certain part of the sum of deductions from the wages should be distributed among all participants in the collective. Of course, the immediate party guilty of the mistake should lose more wages than the rest. It is thought that this approach creates conditions to motivate the workers to help one another, for skilled workers to transfer their experience to young ones, and for newcomers to increase their skill and level of mastery more rapidly. It is curious that this is precisely the viewpoint that is defended in all ways by the authors, but for some reason they do not have an economic interpretation for it.

Experience shows that a specialized brigade consisting of workers of the same occupation is not the best form of labor organization. It gives rise to increased amounts of incomplete production and monotony of labor, and does not contribute to better servicing of equipment. These shortcomings can be eliminated with the organization of comprehensive brigades which include workers of both the basic and auxiliary occupations. A brigade of machine tool workers of this type which was created at the Yuzhuralmash machine assembly shop in two and a half years doubled the output of products, increased labor productivity by 20 percent, reduced the cycle for manufacturing items, and reduced the volume of incomplete production by 13-14 percent.

It is typical of comprehensive brigades to have a broad representation of occupations. As an example one can give the brigade of Yuzhuralmash which is headed by USSR State Prize Winner, A. A. Tokminov. It includes planers, milling machine operators, boring and turning lathe operators, chisel operators, crane operators and rigging assemblers. A total of 25 people. At another well-known enterprise--Uralmash--the proportion of workers employed in such brigades amounted to from 32.9 to 76.2 percent in various shops in 1976, and it was intended to increase these indicators by 24 percent during the 10th Five-Year Plan. Based on the experience of the leading enterprises of the branch, the authors think that under modern production conditions the proportion of workers employed in various types of brigades can be increased to 80 percent in metallurgical shops, 70 percent in welding shops, 85 percent in machine processing shops, 95 percent in assembly shops, and 60 percent in auxiliary shops. These are useful reference figures for other branches.

Analyzing the results of a questionnaire of workers, the authors come to the conclusion that the brigades must include not all workers in a given section or shop, but only those workers who have an inclination toward collective labor and are capable of rendering assistance to one another. One should not include in the brigades those workers concerning whom no less than 25 members of the future brigade responded negatively. But then what is to happen to the educational role of the brigade--should it be ignored or forgotten? Unfortunately, the authors did not even mention this factor. And yet in practice there are numerous examples in which the brigades have re-educated unconscientious and undisciplined workers. This is one of the most important elements of the social significance of brigades.

Questions of wages in brigades and the distribution of collective earnings among members of the brigade were considered comprehensively and profoundly in the book. The authors note that the most typical for the brigades is collective

piece-rate payment, which contributes to increasing the material interest in the results of the overall labor, to reducing the number of workers, to combining occupations and to increasing the responsibility of each worker to the collective. They critically discussed the main methods applied at enterprises for distributing collective earnings within the brigade and took note of their merits and shortcomings.

Thus the book correctly points out that the method of distributing earnings among conventional categories is an inadequately precise instrument for accounting for the individual productivity of labor, since among individual workers it varies by 5-8 percent, and the intercategory difference of existing wage schedules is 10-12 percent.

At heavy machine building enterprises as, incidentally, in many other branches of industry, the method of distributing brigade earnings with the help of the KTU is becoming increasingly widespread. The authors are undoubtedly right when they describe this method as the most progressive one, which makes it possible to take into account more precisely the individual results of the labor of each worker. But this method does not remove all problems with paying for labor in brigades either. For example, what is the most expedient distribution according to the KTU: all earnings, only piece-rate earnings, only bonuses or additional earnings along with bonuses? At heavy machine building enterprises the practice of distributing all brigade earnings has become widespread. But in the majority of enterprises of other branches they distribute only the variable part of the earnings according to the KTU, that is, the piece-rate additional earnings and bonuses. Which is correct? It is worthwhile to think about the fact that it is still inexpedient to distribute the rate part of the earnings according to the KTU, since the rate is the guaranteed payment for the labor of the worker and it is wrong to reduce it.

The book has both practical and methodological value. It is especially useful to workers of enterprises who are directly engaged in the organization of brigades. They will especially value the final part which gives detailed examples of accounting for the economic effectiveness of the introduction of various brigade forms of labor organization. These calculations are based on a comparison of economic indicators--growth of production volume and labor productivity--before and after the creation of brigades, that is, a method which is widely used at enterprises.

In all of the sections of the book the authors not only do not deny the social role of the brigades, but in all ways defend its functions. But the social role is in no way manifested in the practical calculations that are given. This pertains to the example of the calculation of the reduction of the KTU for the worker who has performed slipshod work as well as to the principles for forming brigades and determining the effectiveness of their operation and so forth. The effectiveness of applying brigade forms of labor organization, of course, should be calculated not only in terms of the rubles that are saved, but also in terms of the social acquisitions of the collective. These include primarily increased satisfaction with labor, increased communist awareness, solidarity of the collective and reduced labor turnover. It is just a matter of how the economy should accumulate and concentrate these aspects. We recognize that this question is not so simple, but once it is formulated it must be studied.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

NEED TO FOCUS MORE ON PARTS, ASSEMBLIES FOR MACHINES

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 188-190

[Review by R. L. Santanovskiy, candidate of technical sciences (Leningrad) of the book "Ekonomicheskiye tsikly zhizni mashin" [Economic Cycles of the Life of Machines] by Ye. G. Yakovenko, Moscow, Mashinostroyeniye, 1981, 157 pp]

[Text] The book by Ye. G. Yakovenko essentially expands our possibilities of calculated substantiation of many cyclical processes in machine building. The author thinks that in the mutual adaptation of production elements and products the leading role belongs to the latter. Consequently, a necessary condition for efficient development of production is coordination with the life cycles of the machines that are produced. Knowing these economic life cycles one can, with a certain time lag, implement a complex of organizational and technical measures for changing proportions in production.

Using representative domestic and foreign statistical material gathered for various kinds of machine building products, the author reveals the profound dependency of the dynamics of labor-intensiveness, supply and concentration of output on the parameters of the life of items in production. Industrial workers have received a good book. Its conclusions make it possible to take a new approach to predicting changes in production and to account for life cycles of products which are already being manufactured, are just being assimilated or are earmarked for production.

Let us consider in greater detail individual discussion points formulated in the work of Ye. G. Yakovenko.

Chapter 4 begins with the assertion that complex adaptive changes in the proportions of production ensue after the movement of the volume of the output of machines in various years of their life cycle. In other words, initially there are changes in output and then adaptation to components of production. In our opinion, this is not adequately adjusted to the future direction of work. Having in the five-year plan the dynamics of the items in the various years and knowing their life cycles, it is expedient to begin the appropriate restructuring beforehand, providing for effective profilization of production within the framework of the entire period. Not afterwards, but beforehand or at least at the same time. It is precisely here that one finds the value for practical workers of the study of the life cycle of products in the past and the predictions for the future.

The author's methodological concept is imperfect with respect to the changeover to specific assembly units and parts. From the coefficients of supply, labor-intensiveness and other parameters which are generalized in the book at the level of items and whose dynamics can be predicted for the items as well, it is necessary to move to specific elements of the design. Designs are not homogeneous. They include standardized, unified, borrowed and original parts and assembly components. The dependencies that have been obtained, for example, the reduction of labor-intensiveness cannot be extended to the original elements of the design since the entire mass of objects participated in the analysis. The same thing pertains to other parameters that depend on economic life cycles. Further, when a production system is introduced it includes a specific design with its parameters. Technology is created for specific elements of the design. And it is used in the process of production, that is, there is a joint movement in space and time of the entire totality of objects. In this process one realizes the properties of the system which are not inherent in its individual elements--parts and assembly units.

Consequently, when predicting a change in the parameters of supply, labor-intensiveness and progressive forms, it is necessary to introduce an adjustment coefficient which is conditioned by the manufacture of objects under more efficient organizational conditions. This must be done since the dependencies presented in the book were obtained on the basis of statistics of preceding periods and reflect interconnections that arise in production without its optimization in the present and the future.

In this connection it would be expedient to study as well the question of changing over from the life cycles of items to the life cycles of parts and assembly units, and the change in the scale of their output throughout the life cycles. This question, unfortunately, has not been investigated at all in our literature, although it is a logical continuation and culmination of the life cycle of any item.

Collectives and individual researchers will still have to do a large amount of work in order for the concept of life cycles to be accepted in the system for improving the economic mechanism.

COPYRIGHT: Izdatel'stvo "Nauka," "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

PROSPECTS FOR, LIMITS TO, SOCIAL PSYCHOLOGY EXPLORED

Novosibirsk EKO: EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA in Russian No 11, Nov 82 (signed to press 27 Sep 82) pp 184-188

[Review by N. M. Koryak, candidate of philosophical sciences, pedagogical institute (Novosibirsk) of the book "Sotsial'naya psikhologiya" [Social Psychology] by G. M. Andreyeva, Moscow, MGU, 1980]

[Text] Everyone who is interested in problems of social psychology knows that fundamental work in this area does not appear so frequently in our press and that the publication of this work is a significant event both for psychologists and for practical workers, one which is related by nature to their activity in resolving socio-psychological tasks and problems. This is especially correct with respect to the book being reviewed. G. M. Andreyeva's monograph is the first textbook in Soviet social psychology which is intended for future psychologists and students of psychology departments of universities. But such a specific audience for the book in no way reduces its value for the broader group of readers, including managers of all units of industrial production.

What assistance can be rendered to the manager of an industrial enterprise by a new textbook on social psychology? From my point of view it is capable of helping in an extremely important matter--the development in managers of a scientific world view in the sphere of socio-psychological reality which he encounters each day and each hour in his administrative activity. When a manager has become convinced from his own experience of the fruitlessness of standard formulas and perfunctory schemes in dealing with human interrelations and has experienced an internal need to understand more profoundly the complex and contradictory patterns to which the life of the human collective is subordinated, the book by G. M. Andreyeva can render invaluable assistance to the manager.

The author has attempted to give a systematic presentation of the main problems of social psychology. She gives a description of the object of social psychology, the history of the development of the main ideas and methodological principles. She shows the patterns in the communication and interactions among people. She reveals the link between interpersonal and social relations, and communication

is regarded as a real manifestation of them. She investigates the structure and functions of communication and also its mechanisms: she classifies groups (large and small) and reveals the peculiarities of communication in actual social groups, and also questions of the internal dynamics of groups and their development and, in particular, the peculiarities of collectives. She investigates the way in which general mechanisms of communication and interaction, which are specifically manifested in various social groups, "assign" the personality in a particular social context and, on the other hand, the forms of activity of the individual in further development of social relations. She traces the main directions of applied research, where she analyzes the specific nature of applied research and the real possibilities of social psychology in forming practical recommendations, and she also briefly characterizes those spheres in which applied research is most developed.

From a practical standpoint the most interesting is the last section of the book in which the author raises and tries to solve the most crucial problems for applied research: What can social psychology provide and what can it not provide today. G. M. Andreyeva lists those problems in social psychology of administration for whose solution, in her opinion, social psychology already has the necessary means. This is primarily about the relationship between the style of leadership and the effectiveness of group activity, the resolution of conflicts that arise at the psychological level, the guidance of group decisions, analysis of the compatibility of the manager and the collective, the role of "feedback" (the manager's knowledge of how he is being perceived by his subordinates) in effective administration, and so forth.

The author does not bypass another problem which is no less crucial for practical workers concerning criteria of the effectiveness of applied socio-psychological research. It is becoming increasingly clear that "the effectiveness of socio-psychological research cannot be measured only by calculating how much more economically effectively the collective works. Another aspect of the problem--the social development of the group as a whole and of each member individually--is a no less important characteristic . . . there are no units in which this moral, purely psychological advantage is measured. Consequently, when evaluating the activity of applied research in social psychology it is necessary, if only on a descriptive level, to register these aspects. When comparing two research projects one cannot say that one of them is effective and the other is not, judging only from the greater quantity of products in one of the collectives that is studied. Positive changes which have taken place in the other collective can manifest themselves significantly later, but from this it does not follow that today the work of the researchers can be criticized as "ineffective." [p 384]

Familiarity with the book helps the reader to understand how complex and sometimes ambiguous the position of the social psychologist at the enterprise can be. For a possible conclusion from his research can be an unsatisfactory evaluation or critical remark against those who have ordered the socio-psychological developments. Moreover, the leaking of information obtained during the course of the research can sharply complicate or worsen relations in the actual collective. All this raises a whole number of ethical problems whose existence must be suspected by the manager who has decided to turn to psychologists for assistance.

If at the present time contacts between industrial production managers and psychologists are mainly episodic, in the future their cooperation will be much closer. We are now considering the question of creating a psychological service in our country. But its effectiveness will depend not only the professionalism of the psychologists, but also on the readiness of the practical workers, particularly managers of industrial production, to adopt psychological recommendations, as well as on their ability and desire to implement the recommendations. The overall orientation of managers in tasks and problems of social psychology, its methodological possibilities and the concepts that are used constitute a necessary basis for this future cooperation.

In our opinion, the chapters devoted to the problem of small groups in social psychology deserve special attention from managers. The number of publications in our press regarding this subject is steadily growing. But their authors frequently oversimplify the real problem, absolutize the results of individual experiments, and submit their conclusions as the unconditional truth. This is what happened for example, with research on the functions of the leader and the manager of a small group. From the fact that in certain groups (for example, groups of the Komsomol aktiv) it is optimal to combine the functions of management and leadership in one individual, certain researchers drew the conclusion--and as a practical recommendation it is frequently encountered in popular literature on social psychology--that the so-called informal group leader should be assigned to the position of manager. But in reality, as G. M. Andreyeva shows, this situation is impossible in work brigades. In her opinion, "The greatest oversimplification of the problem of leadership and management is the idea that is necessary for both the leader and the manager to be combined in one person under all circumstances." [p 286]

The author tries to show all the complexity of the problems that arise for researchers and frankly discusses that which is not completely arranged, is not clear and is debatable in social psychology. Let us discuss the 12th chapter as an example. It begins with an analysis of the process of forming a small group or, in other words, forming group solidarity. The author shows the limits of traditional ideas of solidarity as a description of the system of emotional preferences of members of the group and presents a new approach to understanding and investigating solidarity as a phenomenon which arises and develops on the basis of the joint activity of the members of the group. "The very process of formation of the group and its subsequent development is represented here as a process which increasingly consolidates this group, but certainly not on the basis of increasing only its emotional attractiveness, but on the basis of including more and more individuals in the process of joint activity." [p 269]

Another aspect of the problem of solidarity is the question of adopting already existing forms of group life by each new member of the group. In Western social psychology it has been developed within the framework of research of the phenomenon of group pressure. The author describes the classical experiments of S. Ash in research of group pressure and gives it an interpretation from the standpoint of the activity approach that has been taken in Soviet psychology.

It is particularly valuable that G. M. Andreyeva consistently adheres to the principle of activity as an explanation for socio-psychological phenomena and processes. The entire analysis of group dynamics relies on the idea that the

main integrator of the group is its joint activity. On the basis of the development of this activity the group itself changes, there are various stages in its development, and it is transformed into a collective.

In the book the problem of the collective appears to be an independent section of the general research on groups. It seems to us that the author has succeeded in fully revealing the theoretical significance of this problem for social psychology.

Managers will also have a certain amount of interest in those chapters of the book which are devoted to the problem of communications and the problem of the individual in social psychology.

The manager, who is increasingly needed in modern industrial production, must understand all the danger of unprofessional resolutions to complex socio-psychological problems and be able to correctly formulate an order for socio-psychological research and, the most important thing, be capable of using its results. The textbook on social psychology by G. M. Andreyeva can render essential significance in preparing such a manager.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1982.

11772

CSO: 1820/38

END

END OF

FICHE

DATE FILMED

MARCH 24, 1983
(B)